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BALTIMORE, MAY 29, 1913.

A VIRGINIA HOMECOMING.

Newspapers of Virginia are discuss-
ing with considerable enthusiasm the
plan of a great homecoming in 1915 of
exiled Virginians. Should the plan be
carried out and result in most of the
exiled remaining in their native State,
the Old Dominion would receive an im-
petus that would place it far in the lead
of many other States of the country.
According to the latest figures avail-
able, there were 2,464,845 natives of
Virginia in the United States in 1910.
Of that total, 1,843,152 were living in
Virginia and 621,693 were living in
other States. At the same time, 188,886
natives of other States were living in
Virginia, making the total population
natives of the United States living in
Virginia 2,032,038. In the interchange
of population the balance against Vir-
ginia was 432,807. Of the total number
of exiles from Virginia, 271,411 were
living in States outside the South and
355,282 in other Southern States, as
follows: West Virginia, 83,543; Dis-
trict of Columbia, 52,714; Maryland,
45,816; North Carolina, 29,939; Mis-
souri, 24,629; Tennessee, 23,229; Texas,
17,816; Kentucky, 18,541; Oklahoma,
9800; Georgia, 8709; Alabama, 7638;
Mississippi, 7551; Arkansas, 6599; Lou-
isiana, 5380, and Florida, 4907, and
South Carolina, 3422. In this exchange
with other Southern States Virginia
received 141,356, as follows: From
North Carolina, 73,713; Maryland, 15,-
289; West Virginia, 12,957; Tennessee,
12,865; Kentucky, 8751; District of

Columbia, 5149; South Carolina, 3735;
Georgia, 2686; Alabama, 1568; Mis-
souri, 1323; Texas, 807; Florida, 740;
Mississippi, 643; Louisiana, 510; Ar-
kansas, 400, and Oklahoma, 120.

Even before the war and subsequent
general demoralization, natives of Vir-
ginia traveled far afield and made their
records upon the history of the coun-
try. Many exiles of later generations
have made their marks wherever they
have settled, and have been influential
in the development of the country. If
they could all come home and tell their
stories, a most interesting and inspir-
ing exposition would be made, and it is
believed that not a few of them would
discover that Virginia offers just as
great inducements for the exercise of
productive energies as the regions
where they now have their home, if
not greater ones.

DEVELOPMENT OF GREAT COAL FIELDS.

In another column news based on in-
formation from the company is pre-
sented to the effect that the Baltimore
& Ohio Railroad has acquired charter
rights for the construction of another
coal line in the Elkhorn region of Ken-
tucky, and this directs attention to the
great developments which may be ex-
pected in that territory within a few
years. The magnitude of the fuel re-
sources of that portion of the South
are well known, the MANUFACTURERS
RECORD having long ago published the
results of investigations by prominent
and competent men who went through
it and found that practically every-
where the land was underlaid with coal
of superior quality. Already the Balti-
more & Ohio has a coal railroad in the
Elkhorn field—the Sandy Valley & Elk-
horn—which carries out the product of
the Consolidation Coal Co.'s big devel-
opment around Jenkins, Ky., a good-
sized town that has been built up in
the last two years by the coal com-
pany. It is unusual for a railroad com-
pany to construct a line so remote from
its system, but the value of the traffic
to come from the mines was the induc-
ement to build it, and now there is to
be another similar road, which will go
into another part of the region, so that
the output of both will be carried to
the Baltimore & Ohio's main line over
the Big Sandy division of the Ches-
apeake & Ohio Railway. Shipments
have been going out from the Consoli-
dation mines for some time. The new
operation will be that of the Elkhorn
Fuel Co., of which C. W. Watson, Fair-
mont, W. Va., is president, as he is of
the Consolidation Coal Co.

There are rumors that the Baltimore
& Ohio will construct its own line from
some suitable point on its road in either
West Virginia or Ohio down to the coal
fields, these being apparently based
upon the supposition that the single
track of the Chesapeake & Ohio will
not be sufficient to handle both the
loaded and empty coal cars which the

mines will turn over to them a year or
two hence. In fact, some surveys which
have been made from Huntington, W.
Va., have been ascribed to the company,
although nothing official has been said
to confirm this view of the traffic situa-
tion. But it is apparent that the pro-
posed extensive development of the
Elkhorn and adjoining coal territory
will necessitate the provision of en-
larged transportation facilities, and
it may come about that the con-
struction of second track on the
Chesapeake & Ohio Railway from Ash-
land to Elkhorn City, Ky., will come
about; it was suggested some time ago,
and, in view of the relations already ex-
isting between the two companies, it
would not be surprising if the Balti-
more & Ohio shared with the Ches-
apeake & Ohio the cost of making a
double-tracked line down the valley of
the Big Sandy.

While the Baltimore & Ohio has not
announced when construction of its
line into the new coal field will begin,
work has started upon a line along
Beaver Creek, which stream the Balti-
more & Ohio plans to follow for a few
miles and then build up its left fork.
The road now building is an extension
of the Chesapeake & Ohio from Beaver
Creek Station, which is about 30 miles
north of Shelby, the junction of the line
to Jenkins, Ky. It is understood that
the Baltimore & Ohio will also build
from Beaver Creek, but on the other
side of the stream, so as to take another
route into the coal territory. Moreover,
the Louisville and Nashville Railroad
is making preliminary surveys from a
point on its Lexington & Eastern exten-
sion near Indian Bottom, Ky., up Rock-
house Creek, and may likewise build a
branch into the southern part of the
same country.

These three railroad enterprises are
indicative of the great importance at-
taching to the opening of these coal
fields to capital and industry, and more
construction of trackage may be ex-
pected.

RECALLING A TIME OF STRESS.

H. C. Hoggard of H. C. Hoggard &
Co., fire insurance, real estate, etc., Nor-
folk, Va., writing to the MANUFACTUR-
ERS RECORD regarding "The South: The
Nation's Greatest Asset," says:

I was particularly struck with the ac-
knowledgment of "Uncle Sam" of what the
South has done, notwithstanding the depres-
sion of prices of cotton and many other
things against the South's interest, but the
South has made great strides since that,
wonderful strides, when you consider that
we had nothing even to work with. There
was scarcely a horse, cow, hog or poultry
left, and I remember well what a struggle
I had to scrape up \$37.50 to buy one horse to
go to work to make a crop—an old army
horse I bought at auction at Fortress Mon-
roe—a Yank—and he was a balker at that;
but I conquered him in short order and made
a crop. I am sorry to see there was not
more said about Norfolk, for this city,
Portsmouth and Newport News are now the
largest coaling stations on the Atlantic
Coast—and all progressive cities and
growing rapidly, particularly Norfolk and

Portsmouth. We have had many pieces of
property double, and more than double, in
value in the past years. We sold 200 feet
on Granby street last week for \$500 per front,
which only a few years ago brought only
\$165 per foot. This is well up town. One
piece we sold in 1907 for \$27,500, and three
years later brought \$100,000. Another we sold
for \$36,500, and three years later sold for
\$76,000. Another sold for \$15,000, and two
years after sold for \$33,000, and many others
equally as good and some better results.

Your figures in "The South: The Nation's
Greatest Asset" are wonderful, and only go
to show that we, while working, have hardly
kept track of our rapid advance; we have
grown while we rested and slept. The good
Lord has blessed our efforts wonderfully,
and now we have begun to get credit for
our labors.

The writer was 15 years and 6 months old
when he entered the service in the fall of
1861, and was very thankful to come out of
the war in 1865 with only one wound. My
brother, 17 months older, was wounded twice,
but survived the war, although left for 48
hours for dead before taken to the hospital.
No one knows what it was to live from day
to day on a little parched corn—anything to
fill.

GLARING DEFECTS IN THE PENDING INCOME TAX LAW.

The income tax section of the tariff
bill as it has gone to the Senate is so
full of constitutional, legal and phrase-
ological defects that it is hard to be-
lieve that it contains material even for
the framework of an income tax that
will stand the test of upright, learned
courts. Typical of the defects is the
provision in the second clause of para-
graph E of section II of the tariff bill:

The amount of the normal tax hereinbe-
fore imposed shall be deducted and withheld
from fixed and determinable annual gains,
profits and income derived from interest
upon bonds, mortgages or other indebted-
ness of corporations, joint stock companies
or associations, insurance companies, and
also of the United States Government, not
now exempt from taxation, whether pay-
able annually or at shorter or longer pe-
riods, although such interest does not
amount to \$4000, subject to the provisions
of this section requiring the tax to be with-
held at the source and deducted from annual
income.

As defined in the bill, the normal tax
is 1 per cent. per annum upon the en-
tire net income over and above \$4000
of an individual arising or accruing
from all sources in the preceding calen-
dar year after allowing for certain de-
ductions that are specified. The general
aim is for the tax to be withheld at the
source of the income and paid to the
local internal revenue collector by the
source. That is to say, if the source
yields any portion exceeding \$4000 of
the income, the tax of 1 per cent. on
the excess is to be withheld.

For instance, if the income includes
a salary of \$5000, the payer of the sal-
ary will withhold and pay to the col-
lector of internal revenue in his district
\$10 tax, 1 per cent. of the salary above
\$4000.

But the exemption of \$4000 shall not
be allowed unless the recipient of the
income shall, within 30 days prior to
the day on which the return of his in-
come is due, file with this source, made
personally liable for the tax, an affi-

davit claiming the benefit of the exemption. No matter how large the income, only \$4000 of it are exempt. In the case of the income being derived from two or more sources, each yielding more than \$4000, each source, except the one with whom has been filed the claim for \$4000 exemption, shall withhold 1 per cent. for the tax from its payment to the recipient of the income.

For instance, an income may include a salary of \$5000, a rent of \$4500 from a building and \$4500 interest from a loan. The claim for exemption may be filed with the salary-payer, in which event both the renter of the building and the debtor will each be obliged to withhold \$45, the 1 per cent. tax upon the portion of the income of which he is the source. The employer, the renter and the debtor must each make a return to the collector of internal revenue in his district of the portion of his income from which the normal tax has thus been withheld. If the income of any person subject to the income tax exceeds \$3500 derived from one source or more, none of which yields in excess of \$4000, the receiver of the income must make a return of the gross amount of his income from all separate sources to the collector of internal revenue in his district. If, in addition to sums upon which the taxes are paid at the source there are other sums received, a personal return of such sums must be made and the tax must be paid direct by the receiver of the income.

This is an attempt to outline, for simplicity, the procedure in the case of any individual subject to the normal income tax. In the outline the aim has been to set forth clearly the apparent intent of the framers of the bill, an intent hard to be discovered because of the obscurities, contradictions and the lack of knowledge of the weight of words in which the language of the bill is involved. The outline is preliminary to an exposition of the difficulties surrounding the tax on income derived from bonds and other such indebtedness. In that particular the normal tax is to be withheld at the source, even though the interest may not amount to \$4000. It is expressly provided that in the case of bonds which have been issued with a guarantee that the interest payable thereon shall be free from taxation, no deduction for the payment of the normal tax of 1 per cent. upon the net income of the corporation issuing the bonds shall be allowed. That proviso squints toward the debtor corporation being permitted to pay the tax upon the interest of its bonds and thus to avoid a breach of contract with its creditors in the case of the guarantee mentioned, although such payment would not be allowed as a deduction in computing the corporation's own taxable net income, and would tend to reduce the amount received in dividends by the owners of the corporation. But it would simplify matters, especially where the interest is collectable in the form of payment upon coupons.

However, the intent of the bill seems to be to place the tax, although paid by the bond-owning corporation, upon the bond-owning individual. And there is a Pandora's box of perplexities.

The language of the provision as to taxation of bonds does not make it at all clear that the tax is not to be paid if the interest upon the bonds is a part of the net income less than \$4000. The text of the provision seems to suggest that tax on the interest on the

bonds is to be withheld by the corporation, regardless of the general provision for the exemption of \$4000 of income. But Representative Cordell Hull, the putative father of the measure, is under the impression that the general exemption would apply, and that interest on bonds in an income less than \$4000 would not be taxed. In the course of his attempted exposition of that very point he and Representative Mann of Illinois, who was seeking information, had the following colloquy:

MR. MANN. Suppose, for example, that a man has coupons in the course of a year to the amount of \$500, and that is his total income. At present, if he collects those coupons, payable to the bearer, he deposits them in a bank and gets credit for the amount. Now, under the scheme that is proposed, how would that operate?

MR. HULL. It would operate this way: that the holder of corporate bonds can always have the benefit of his exemption of \$4000 and his deduction; that is, the owner of the bonds can, provided he presents them or has them presented for collection himself. But if he trades them to other people and parts with title to the coupons, then that privilege would not lodge in the other persons, because such coupons would be capital and not income in the hands of other taxable owners.

MR. MANN. Practically, then—I ask for information—under this proposition the owner of these coupons of small amounts could no longer deposit them in banks, but would have to send them by registered mail or by express to the headquarters of the company, with an affidavit stating that that was the amount of his income or that the income was less than \$4000.

MR. HULL. They could mail them directly to the headquarters of the company and claim exemption, and receive full payment of the interest.

MR. MANN. Would it be practicable under the bill to deposit them in a bank, with an affidavit as to the amount of income?

MR. HULL. It would be practicable if the holder of the bonds retained ownership and did not part with them, as he would with any other negotiable instrument.

MR. MANN. Of course, he would not put them through the bank unless he parted with title to them.

MR. HULL. He could for purposes of collection.

MR. MANN. Even then he would have to assign his title to the bank as a negotiable instrument. That was not worked out before under our law, but how does that work out under the English law?

MR. HULL. Under the English law the corporations retain the tax on the interest and pay it to the Government, and the taxpayer presents to the Government any claim, either for deductions, abatements, or for the \$300 exemption which exists over there, instead of the \$4000 exemption here.

MR. MANN. Of course, there are a large number of people either holding a small amount of bonds or a small number of shares. Of course, the shares would not make so much difference. But there are a large number of people who hold a small amount of coupon bonds now. I think the universal custom is that those are collected through the banks by deposit. Is there any way of making an arrangement by which that could still continue? It is a matter of very great convenience.

MR. HULL. I would suggest to the gentleman that coupon bonds issued by well-established business concerns are exchanged generally in trade, and, of course, as the gentleman well knows, they pass current like any other negotiable instruments.

MR. MANN. Certainly, but they could not under this plan where everybody desires to have an exemption.

Considering the fact that ownership of bonds is usually widely distributed and, in the case of coupon bonds, that the debtor corporation has no record of their ownership, the statements of Representative Hull show that not only the method of withholding the tax in the case of an income exceeding \$4000, but also the method of obtaining the exemption in the case of incomes less than \$4000 is excessively roundabout, and that the cost of proving to the debtor corporation that the interest is exempt amounts to more than the income tax on the interest.

This burden and the risk of loss of the coupons in the mail, to say nothing of the possible expense in fees to lawyers for guidance through the labyrinthian details of the process, would work injustice upon thousands of persons of small incomes. Because of the convenience in realizing upon them, coupon bonds have been a favorite form of investment for persons seeking to provide for the future of their wives and children. The convenience is wiped out, according to Representative Hull's declaration, and a class of persons not intended to be taxed upon incomes are virtually taxed through the expenses of affidavits, the proceeds of which do not go into the National Treasury, and of registered postage or express.

Suppose Representative Hull's impression is incorrect, a supposition justified by developments as to his impressions about another phase of the measure, and suppose that the courts should rule that the provision as to taxation of the interest on bonds is applicable to all such interest, whether or not the income including the interest is \$4000. That would not relieve the bondholders from the trouble and expense incident to the payment of the tax at the source, and it would add to the complexities of the situation of a corporation's being held personally liable for the tax which it is compelled to withhold from the interest that it had guaranteed shall be free from taxation of all kinds.

Again, bonds are quite a favorite form of investment for mutual savings banks. By special amendment, in the course of the passage of the bill through the House of Representatives, mutual savings banks were exempted from the income tax. Coupons made taxable at the source would cease to be negotiable instruments, and mutual savings banks could realize upon them only by presenting them for collection at the source with an affidavit that they were exempt from taxation. There, too, would be expense to be deducted from the interest paid the depositors in the savings banks. In the event of all interest from bonds being taxed, whether or not they were parts of income exceeding \$4000, simplicity and economy in collection would be assured by providing a stamp equal to the amount of the tax to be placed upon the coupons by the owner before they could be negotiated, and, in the case of other instruments of the kind, by withholding the tax from the interest on them at the source. But that would require special affidavit and its additional expense in cases where personal returns of income should be called for under the law, and would practically nullify some of the exemptions.

The difficulties for the honest man in the bond provision have thus been sketched for the reason that they are typical of the difficulties surrounding the payment of the normal income tax, difficulties which it is believed would be found to be greater in collecting the surtax. They are worthy of the attention of trained minds in the Senate of experience in framing laws that will stand the test of the courts, and of knowledge of ordinary business affairs. They do not touch upon the question of the constitutionality of the discrimination in selecting the minimum income subject to the tax, especially in the light of the explanation of that selection volunteered by framers of the measure. Nor do they touch upon the constitutionality of the exemptions from the tax in paragraph C of section

II of the salaries of the present President of the United States, the present judges of the United States courts and of all officers and employees of a State, or any political subdivision thereof, authority for which seems to bank upon opinions of law officers of the Government, or of court rulings antedating the amendment to the Constitution giving the Congress the power to levy an income tax in this way. Nor do they touch upon the constitutionality of a provision in paragraph D of section II of the bill which attempts to make the law operative from January 1, 1913, a date anterior to the ratification of the income tax amendment and much longer anterior to the passage of the bill itself, a provision involving the impossibility of withholding at the source of an income the tax on payments that have been made six months or more earlier. But those questions should be threshed out thoroughly before the passage of the bill.

The matter is of too great and fundamental importance, as characteristic of the results of haste that apparently prevailed in framing the tariff bill, to be settled under any rush orders.

HARDLY AN EDICT FROM THE AMERICAN PEOPLE.

As the Senate enters upon the business of tariff revision, attention should be directed to a mistaken view of the situation, in the hope that correction of the viewpoint may lead to proper legislation. In bringing the tariff-income tax bill before Congress, Representative Oscar W. Underwood said:

The American people have returned to this House one of the greatest majorities any party has ever had in these Halls since the Civil War. We do not speak for ourselves, but we speak through the authority of an edict from the American people.

This is expressive of a delusion shared by others in promoting the bill. It is a delusion to believe that there was anything in the platform of the party which has a majority in Congress justifying the tariff-income tax bill as it has gone to the Senate. It is a greater delusion to believe that the party in power in Congress represents the American people, in the face of the fact, obvious to any intelligent mind, that "the country did not go Democratic in November." Figures of the November vote from the World Almanac and other reliable sources clearly demonstrate that "one of the greatest majorities in Congress that any party has ever had in these halls since the Civil War" does not represent even a majority of the voters of the country, to say nothing of the whole people of the country.

Of 291 Representatives of the Democratic Party in the House, 101, or more than one-third, hail from the eleven States in which alone the Democratic candidate for the Presidency received a majority of all the votes cast. These eleven States, with a population of 22,392,414, or 24.4 per cent. of the total population of the country in 1910, cast 1,542,865 votes in the Presidential election, or 10.3 per cent. of the total vote, and elected 101 Democratic Congressmen, or 34.7 per cent. of the total number of Democratic Congressmen in the House.

Of the 48 States of the Union, 39 elected one or more Democratic Congressmen. Such Congressmen constitute a majority of the representation from 29 States, the representation from two other States being evenly divided, but the Democratic representation

from 20 of these 31 States and from 28 of the 39 States is based upon a minority of the total vote, estimating by the Presidential figures. The general trend throughout the country was a Congressional vote smaller than the Presidential vote. Typical of the general situation is the representation in Congress from the State of New York.

In the 43 districts of New York 634,471 votes were cast for Democratic Congressional candidates in a total Congressional vote of 1,517,700. This decidedly minority vote, less than 42 per cent. of the total, elected 72 per cent., or 31, in a total of 43, of the Congressmen from New York. In the 31 districts electing Democratic Congressmen, 455,009 votes were cast for them in a total vote of 996,018. Of the 31 Democratic Congressmen from the State, only 11 received a majority of the votes cast in their respective districts, and the aggregate majority of these 11 was only 28,326.

The 455,009 votes cast for the successful Democratic candidates represent only 29.9 per cent. of the total vote and, inferentially, only 2,724,943 of the total population of 9,113,522 of New York State. In those figures is no possible basis for any claim that the Democratic Congressmen from New York have any edict or mandate from the people of that State, even disregarding the character of the vote in quite a number of the 11 districts in which the Democratic candidates received an actual majority of the votes cast.

The total Democratic vote for Congressmen in the State was 21,004 less than the total vote for the Democratic Presidential candidate, and the total Congressional vote in the State was 70,274 less than the total Presidential vote in the State.

These facts ought to suffice to demonstrate clearly that the majority of members of the House of Representatives represent only a minority of the people of the country and, consequently, that a belief that they have a "mandate" or an "edict" from the American people has absolutely no foundation except in an enthusiastic overconfidence. Thus is prepared the way for a demolition of the delusion that even a majority of the Democratic voters in November had any intention of being committed to such legislation as that attempted in the tariff-income tax bill, unless that particular majority had cryptic knowledge exclusively their own. For the tariff-income tax bill is neither flesh, fish nor fowl, but it is an appalling hash of all such ingredients seasoned with an income proposition which is essentially an arcanum concocted in the midst of a dense fog of ignorance and political recklessness and reeking with unknown dangers.

INDIAN COTTON MILLS AND WORLD TEXTILE INDUSTRY.

So widely ramified are the influences affecting in one degree and another the Southern cotton growing industry that the words of an East Indian, writing in a London magazine and quoted by the Literary Digest as to the growth of the textile industry in India, cannot fail to interest cotton growers and cotton manufacturers of the South. Discussing the cotton manufacturing activities of India, the writer says:

An idea of the gigantic strides that the Indian cotton-mill industry has taken can be formed by studying the figures for the

last generation. In 1880-81 there were 55 cotton mills, containing 1,434,364 spindles and 12,739 looms, and giving employment to 46,530 men. Twenty years later the number of spindles and looms has more than trebled. During the next decade progress was made at a still more prodigious pace, and in 1909-10 the number of mills had grown to be 216, with 5,773,824 spindles, 74,585 looms, giving employment to 215,419 persons and producing 593,206,855 pounds of yarn and 215,360,904 pounds of cloth. During 1911-12 the Indian mills consumed 6,090,000 hundredweight out of the 14,000,000 hundredweight of cotton India had produced during that year.

The phenomenal growth of the industry has already enabled the Indian cotton magnates almost completely to rout Lancashire out of one large corner of the Indian market. No longer does Manchester ship to Hindustan much of the coarse cloth which the natives annually consume by the million pounds. This demand is now largely met by the Indian power mills and by the native hand looms, which employ two and three-quarter millions of men, or really three times as many people, for the wives and children of the weavers work alongside of them.

The writer adds that many East Indians are preferring, in the interest of home industry, to wear comparatively coarse cloth made in their own land, even though they may have to pay more for it than for finer fabrics made in Lancashire. Not many months ago English spinners were much concerned lest the supply of cotton from India should be diminished. They were perfectly willing that India should continue to produce the material for their spindles and to remain a big market for their finished goods. The rapid increase in cotton manufacturing in India indicates the possibility of that country's becoming a less important factor as a consumer of foreign-made cotton goods, for which it pays more than \$100,000,000 annually, and, at the same time, a smaller producer of the raw material. One immediate result to be expected is a reinforcement of the campaign maintained now for quite a number of years calculated to depress the price the English mills of Southern raw cotton. At the same time, it will be natural for the English manufacturers to seize quickly upon any opportunity for a widening of the markets for their goods in this country or in other lands where Southern cotton goods have a sale arising from any conditions placing American textile manufactures at a disadvantage. The situation suggested in the comments upon the development of the East Indian industry is one worth careful study by American manufacturers, and especially those in the South.

Chicago Cement Show.

The seventh annual Chicago Cement Show will be held in the Coliseum February 12 to 21, 1914. This will be the only cement show to be held next winter under the auspices of the Cement Products Exhibition Co. At the same time the National Association of Cement Users will hold its tenth annual convention in Chicago.

Ralph Robertson and associates of the San Angelo Chamber of Commerce, according to a report from San Angelo, Tex., are seeking a bonus of 10 per cent. of \$25,000 for a proposed line of passenger and freight trucks which they propose to establish between San Angelo and Sonora and Junction City. The Chamber of Commerce has appointed a committee to investigate the plan.

The first carload shipment of peaches this year from the Middle Georgia territory was made last week from Macon to New York.

Oklahoma's Amazing Industrial Development.

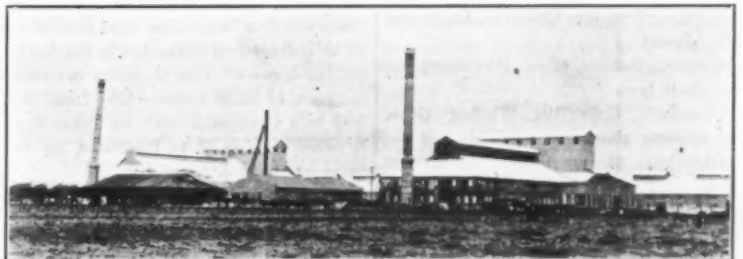
REMARKABLE ACTIVITIES IN PRODUCTION OF OIL AND GAS AND IN GLASS MANUFACTURING.

By RICHARD H. EDMONDS, Editor Manufacturers Record.

The amazing development of Oklahoma in agriculture, in oil and gas production and in railroad and city building activities during the last 10 years, which has been one of the most remarkable features of American progress, is to be surpassed in the coming 10 years. All that has been done has been pioneering work. In agriculture many problems had to be solved; in oil development many hundreds of thousands of dollars had to be lost in testing out the oil fields in the State. In railroad work operations have been seriously hampered by unwise political agitation, some of it honest, some of it thoroughly dishonest work of the political agitator, working for his own interest while making the people believe he was working for theirs. In city building activities some mistakes have been made by overdoing speculative land operations, but the number of these seems to be exceedingly small when all things are taken into consideration. Indeed, one of the most striking facts which impresses the student of the

oil and gas activity than in many of the conservative but growing cities of the central South.

Oklahoma has been an experiment station for testing out many political theories. A good many of them have proved dismal failures. Its progress, amazing as it has been, would have been far greater had it never suffered from this fever of political agitation and the energy with which it was worked by the politicians as an experiment station in politics, in finance and in railroad control. A saner view of the situation is coming about. The people of the State have learned by costly experience that a good many of the experiments tried by politicians have been paid for by the people, and not by the politicians. There is now a widespread sentiment throughout the State to bring about more favorable conditions for the building and operation of railroads. It is fortunate that this is the case, because all the indications point to a volume of traffic which will tax to their utmost ca-



VIEWS OF THE OKMULGEE WINDOW GLASS CO.'S WORKS IN OKLAHOMA.

development of this State is the relative small amount of speculative operations, especially in connection with the vast oil and gas operations, that is going on as compared with speculation in times past in other oil and gas regions. There is here none of the wild speculative boom of the Beaumont section when that city suddenly became the center of the world's oil activities, nor is there anything comparable to the speculative era in the Indiana gas fields when that section was undergoing its wonderful development following the discoveries of gas in large quantities.

Men from all over the world are gathering in Oklahoma, and capital from abroad, from the North and from the West is being heavily invested in oil and gas and manufacturing operations. But this great movement of men and money has not produced anything like as much speculation as I have found in times past in other rapidly-developing regions. Indeed, so far as speculative land fever is concerned, I believe there is less of it in evidence even in the most rapidly-developing centers of

capacity all the railroad facilities of this section. It is absolutely essential to the best interests of the State, agricultural, industrial and commercial, that railroads shall be given as quickly as possible every opportunity to find new capital in order to increase their facilities over existing lines and to build much-needed branch lines. If it were not fairly well assured that more favorable legislation will put the railroads in shape to do this, then the situation in all this region would be considerably endangered by the certainty of transportation facilities being wholly inadequate to meet the growing needs of the State.

The pioneering work has been done, and the field has been cleared and made ready for much greater progress than that of the past. Every condition in every line of business except that of the purely town lot speculation is preparing for a far-reaching advance.

One of the greatest changes that is now taking place in the industrial life of the Southwest is the practical transference to the Oklahoma field from Indiana

and Kansas of the window-glass and bottle-making industry. This change is significant of what will follow in the near future in other lines of industry. The gas potentialities of Oklahoma are apparently almost without limit, and as far as is possible the people who dominate the gas situation are conserving this priceless fuel supply for utilization in home industry. It is estimated by competent authorities that when the glass-making plants now under construction are completed this section will make more than 80 per cent. of the window and bottle glass produced west of the Mississippi River. For a year or more the Frisco Railroad people have been quietly but aggressively working to bring about this transference of the industry from the practically exhausted gas regions of some other States to this virgin gas field. The strength of the situation here is greatly increased by the large supplies of available coal which can be utilized in the years to come should the gas supply become partly exhausted as elsewhere. So abundant, however, is the supply of gas, with wells in many places having a producing capacity of 5,000,000 to 25,000,000 feet per day, and rigid laws preventing the undue waste of gas, that it seems reasonable to look for a much longer life for this gas field than is usually anticipated in any gas region.

Indicative of the glass-making industry and the rapidity of its development, a large proportion of which is due to the work of the Frisco System's department of development, is the following list of glass plants now in operation or under construction:

Tulsa, Tulsa Glass Co., jelly glasses.
Sand Springs, A. H. Kerr & Co., fruit jars.
Sand Springs, Kelly Glass Co., lamp chimneys.
Sapulpa, Sapulpa Glass Co., window glass.
Sapulpa, Sunflower Glass Co., window glass.
Sapulpa, Premium Glass Co., lamps and jelly glasses.
Sapulpa, Schram Glass Manufacturing Co., fruit jars.
Okmulgee, Coffeyville Window Glass Co., window glass.
Okmulgee, Skelton Glass Co., window glass.
Okmulgee, Baker Bros. Glass Co., window glass.
Okmulgee, Graham Bros. Glass Co., bottles.
Blackwell, Oklahoma Glass Co., fruit jars.

The cash investment in these plants will be considerably over \$1,000,000, and possibly will run to \$1,500,000. The largest single plant is that of the Skelton Glass Co., which is under construction, and already has under roof about eight acres. Dr. Skelton, the owner of this plant, a very large operator in oil and gas, as well as in industrial interests, states that before the plant is fully completed and ready for operation it will represent an actual outlay of at least \$1,000,000. Based on this estimate of cost for this plant when completed, a total for all of these plants will considerably exceed the amount stated. The Skelton plant is being built for producing glass by patented machinery. A number of other glass plants are now negotiating with a view to locating in this section.

While the glass-making industry in this rapid development is of great importance not only in itself, but by reason of the fact that it is indicative of a trend of industrial interest to these almost limitless gas fields, the tremendous oil industry of the State is the spectacular thing of the

day and likewise the great wealth and freight creator.

Up to the present time a large proportion of the oil produced in this State has been shipped out by pipe lines in its crude state to be refined elsewhere. Now there is a very rapid growth of the oil refinery industry in Oklahoma, which will add vastly to the railroad traffic and at the same time practically quadruple the value of every barrel of oil that passes from its crude form through the refineries now in operation and now being erected to the refined state. In some cases the value of the oil and the by-products will far more than quadruple the crude oil value, but it is safe to say that every barrel of oil on the average which is now selling for 88 cents a barrel will as it passes through local refineries be increased in value to at least \$4 as a minimum.

Last year this State produced in the neighborhood of 130,000 barrels per day, and a little more than a year ago the price was 50 cents per barrel. At the present time careful estimates make the production 165,000 barrels per day, while the market price is 88 cents a barrel. This will mean an increase of probably 10,000,000 to 12,000,000 barrels for the year, carrying the production of this year to largely over 60,000,000 barrels, as against 52,000,000 barrels last year. With this increase in production and an increase of nearly 100 per cent. in price, this year's oil output will probably be at least double the value of last year's.

At the present time there are in operation two pipe lines carrying oil to Port Arthur, and one to Baton Rouge, where the Standard Oil Co. has a large refinery. There are three pipe lines to the north owned by the Prairie Oil & Gas Co., formerly a subsidiary of the Standard, and probably still controlled by Standard Oil people. This Prairie company carries oil to Whiting, Ind., and it is there continued on its journey in the pipe lines of the Standard Oil Co. to Bayonne, N. J., a distance of probably 1800 to 2000 miles. There are four small pipe lines that carry oil to independent refineries in the North and to Kansas. The Magnolia company proposes to build another line from this field to a connection with its Texas line, in order to pipe oil to Beaumont for refining at that point.

The refineries now in operation or under construction include the following:

Chelsea, Chelsea Refining Co., 800 barrels daily capacity.
Vinita, Milican Refining Co., 1000 barrels daily capacity.
Sand Springs, Phoenix Refining Co., 4000 barrels daily capacity.
Sand Springs, Waters-Pierce Oil Co., 5000 barrels daily capacity.
Tulsa, Constantine Refining Co., 1000 barrels daily capacity.
Tulsa, Texas Oil Co., 5000 barrels daily capacity.
Tulsa, Uncle Sam Oil Co., 600 barrels daily capacity.
Tulsa, Cosdon Refining Co., 3000 barrels daily capacity.
Sapulpa, Sapulpa Refining Co., 4000 barrels daily capacity.
Okmulgee, American Refining Co., 3000 barrels daily capacity.
Okmulgee, Indianahoma Refining Co., 800 barrels daily capacity.
Oklahoma City, Oklahoma City Refining Co., 600 barrels daily capacity.
Big Heart, Southwest Refining Co., 750 barrels daily capacity.
Ponca City, Ponca City Refining Co., 500 barrels daily capacity.
Cushing, C. B. Shaffer, 3000 barrels daily capacity.

Cushing, Brown Refining Co., 500 barrels daily capacity.

Cleveland, Cleveland Petroleum Co., 500 barrels daily capacity.

Muskogee, Muskogee Refining Co., 1000 barrels daily capacity.

Muskogee, Cudaby Refining Co., 500 barrels daily capacity.

Coalton, Coalton Refining Co., 200 barrels daily capacity.

The Magnolia Oil Co. has secured an option on land at Oklahoma City with a view to building a refinery, and it is understood that it will be of large size.

It is estimated that last year local refineries took about 15 or 16 per cent. of the oil production of the State, and that this year, with the large number of new big refineries under construction and included in this list, home refineries will take at the rate of 30 per cent. or more of the enlarged output of this field.

Pittsburgh bankers and business men who recently came down to this section in a special train made the statement that since the beginning of the oil and gas development Pittsburgh had sold to these interests in Oklahoma \$90,000,000 worth of machinery and equipment. As one looks over this vast area and sees a forest of well-drilling rigs and notes the almost numberless storage tanks and the vast supplies of piping and other equipment, he can readily believe that the Pittsburgh estimate of \$90,000,000 is very conservative. There are now about 23,000 to 24,000 producing wells in the State, and over 1000 are now being drilled. About five carloads of material is required for every well put down. The general view of the most conservative men to be found in the State and the men longest identified with the industry is that this oil development will spread over a still wider portion of the State and give a very much larger production even than the magnificent totals of today. Professor Gould, for many years the State Geologist of Oklahoma, says:

"It is altogether probable that 50 years will elapse before all the oil territory will be discovered and possibly 50 years longer before the oil has all been taken from the ground. In addition to the vast deposits of oil and gas, Oklahoma contains, according to the estimates of the United States Geological Survey, 79,000,000,000 tons of coal. If ever Oklahoma's oil and gas are exhausted, the supply of coal will be ample for many generations. Those in position to know are of the opinion that Oklahoma has available nearly 2,000,000,000 cubic feet of gas per day. At the important gas centers glass-making industries and other manufacturing concerns are contracting for gas on the basis of three cents per 1000 cubic feet, with slightly higher figures for small consumers. So great is the enthusiasm of Oklahoma for the establishment of industries that many towns are not only willing to make contracts for gas at three cents per 1000 cubic feet, but add to this free sites and large cash bonuses to industries that will stand close investigation."

Added to this phenomenal activity in oil and gas and glass making, and the great advance in refining in the State, Oklahoma is this year blessed with a promise of the largest crops it has ever produced. Moreover, the introduction all over the State of silos which have been put in by thousands, and some say by tens of thousands, has saved the farming interests from the danger of droughts, for if a drought comes in the future it will be possible for a very large proportion of the farmers of the State to cut the growing crop and put it into silos for cat-

tle feeding. This development is on so large a scale and is being so actively encouraged by the farmers who have tested it, and by bankers and railroads who are encouraging its introduction, that from an agricultural standpoint the future of Oklahoma is a much safer, sounder proposition than ever before.

A Commonwealth of almost limitless potentialities is here rounding into form.

Missouri's Red Book.

In addition to a mass of detailed information about organized labor in the State, and questions bearing upon the relations of employers and employees, the Missouri Red Book for 1912, just issued by the Bureau of Labor Statistics, Austin W. Biggs, commissioner, contains a splendid exposition of the opportunities of Missouri in statistics and text dealing with the surplus products of the State set forth for each of the 114 counties. The figures show that the aggregate value of products shipped from the several counties for sale in 1911 was \$342,816,166, divided as follows: Live-stock, \$133,244,420; mine and quarry products, \$55,689,871; packing-house products, \$39,235,945; farm crops, \$33,091,452; farm-yard products, \$28,818,145; mill products, \$15,437,736; forest products, \$8,623,563; vegetable and canned goods, \$7,479,310; stone and clay products, \$5,883,542; dairy products, \$3,552,006; fresh fruit, \$3,154,348; cotton products, \$3,161,928; wool and mohair, \$2,304,485; nursery products, \$907,465; Missouri corn-cob products, \$526,300; liquid products, \$383,888; fish and game, \$372,193; medicinal products, \$83,200; apiary and cane products, \$59,106, and unclassified products, \$718,173. These values are for surplus shipments only, and do not include the entire value of the State's production. For instance, 9918 factories and workshops in the State turned out in 1911 products valued at \$613,774,759 and employed 209,532 persons. The Red Book tells, also, of the progress during 1911 in the reclamation of wet lands and the construction of improved highways, and gives other information of value to the investor and home-seeker.

Virginia-Western Power Co.

Referring to the Virginia-Western Power Co., which has incorporated with a capitalization of \$626,000, W. G. Matthews of Clifton Forge, president of the Virginia-Western Electric Co., writes to the MANUFACTURERS RECORD as follows:

"This new corporation will consolidate our several properties and take over the Virginia-Western Electric Co., the Rockbridge Power Corporation, the Covington Light & Power Co. and the Buena Vista Light & Power Co. Its paid-up capital is common, \$300,000; authorized, \$500,000; preferred, \$126,000. The new company takes over the above operating properties and contemplates transmission line extension and additional enlargements and other hydro-electric and steam developments. It is proposed to have an authorized issue of bonds to the extent of \$1,500,000 for future developments. A short time ago I gave you some information about the Virginia-Western Electric Co., at which time, in addition to the ownership of Rockbridge Power Corporation and Buena Vista Light & Power Co., we sold current to the Covington Light & Power Co. The new organization, with more capital, takes over and has recently purchased the Covington plant, franchises, etc., as well as all the others. We own and control several water-power sites, and some further developments will be determined upon a little later on."

The Problem of Panama.

By JAMES NISBET HAZLEHURST of Atlanta, Member American Society Civil Engineers.

The Panama Canal, like all Gaul, is divided into three parts; definite sections, as is generally known, being the Atlantic division, from the protection breakwater in Limon Bay and the Canal at sea level through to the Gatun locks and dam, a distance of 7.7 miles; then follows the central division of 31.7 miles, from the Gatun lock to the Pedro Miguel lock, which includes the valleys of the Chagres River and part of the Rio Grande and the Culebra cut through the Continental Divide, while the Pacific division of 11 miles includes the tidewater excavation from the Pacific Ocean along the Rio Grande, the Miraflores locks and dam, the Miraflores lake and the Pedro Miguel lock. This division has been until recently in charge of a civilian engineer, Mr. S. B. Williamson, while, as the world knows, Col. George W. Goethals is chairman of the Canal Commission and its chief engineer. Lieutenant-Colonels Gaillard and Sibert are also canal commissioners and division commanders of the central and Atlantic sections, respectively.

As was said by President Roosevelt to his appointees of the Isthmian Canal Commission, its members were "to undertake the most important and also the most formidable engineering feat that has hitherto been attempted—to do a work the doing of which, if well done, will reflect high honor upon this nation, and when done will be of incalculable benefit not only to this nation, but to civilized mankind."

This stupendous work, almost staggering the imagination, is now drawing to a close, there remaining less than 2 per cent. of concrete work to complete the locks and spillway on April 1 last, while over 90 per cent. of the excavations within the canal proper and for permanent structures had all been removed. Referring to the canal as a whole, the plans have from time to time been modified somewhat as follows:

In 1901 it was proposed to build the canal with minimum dimensions 150 feet and a depth of 35 feet. These dimensions were altered in 1906 to include a bottom width of 200 feet and a depth of from 40 to 45 feet, whereas the present limiting the minimum figures are for the canal proper 300 feet width and depth of 45 feet.

On May 4, 1904, the reorganized French company, then maintaining the canal work with about 500 men at Culebra, turned over to the United States Corps of Engineers their men and machines, and operations to the 1st of January, 1905, were conducted by the Americans with the forces and machinery formerly used by the French, the desire of the Americans being largely to secure data at that time for estimating. According to the French records, 24,000,000 cubic yards had been taken out of Culebra cut before the transfer to the Americans, but cross-section measurements made by the latter showed only 20,419,720 cubic yards, and of which 18,646,000 will be utilized by the United States.

It will be remembered that the first French company organized by De Lesseps in 1881 failed in 1889, after spending \$250,000,000. The rights and property of the French were purchased by the United States for \$40,000,000, and to this date it is assumed that \$25,389,240 would be a fair allowance for useful excavations for work which had cost the French company close to \$120,000,000. There are 112 French locomotives and 7 ladder dredges which are being used by the

Americans today, and it has been conservatively estimated that the price paid by the French is well within the actual values to the United States for work, materials and machinery done, on hand and furnished.

The Isthmian Canal Commission used as a basis of cost for the Culebra division excavation the figures that we derived from operations with the French outfit, which seemed to justify the belief that the work of excavation or removal of material from Culebra cut could be performed on an average of not to exceed 50 cents per cubic yard, which were the figures used by Chief Engineer Wallace, based on an actual cost of 58.6 cents, but which seemed not to have been possible in practical conditions, since the following year the cost under Chairman Shonts actually amounted to 79.5 cents in the Culebra cut, while in September, 1908, the average "division cost" for all material excavated up to that time in the central division had been \$0.9344 per cubic yard. This cost did not include the original cost of the plant, but did include every other item of expense in the division, such as repairs, operation, fuel, etc.

Believing that this price could be cheapened, the division engineer submitted an estimate for all future work in the central division of 75 cents per cubic yard. The total and actual cost per cubic yard of all material excavated from September, 1908, the date of the estimate, to April 1, 1913, has been \$0.5163 for the removal of material during the period of 79,308,891 cubic yards. This saving over the 1908 figure will absorb the very large amount of material added by the slides, leaving a surplus of several million dollars.

Labor.

Commencing with the original forces taken over from the French during the past March, there was engaged on the canal nearly 40,000 men, about the largest number of employes in the history of the work, and of which 27,000 were directly in the service of the commission, 5000 utilized by general contractors and nearly 7000 by the Panama Railway Co. Of the total force employed on the canal work, about 4500 were exclusively white Americans, 4500 European laborers and the remainder largely West Indian negroes, largely unskilled laborers, from nearby tropical islands and countries.

These negroes are used entirely for the rougher work, while the partly skilled labor, such as used in drilling, blasting, tracklaying, grading, track maintenance, etc., is largely performed by white Europeans recruited from the southern section, as Spain, Portugal, Italy, Greece, etc., the latter race, however, having largely deserted the Isthmus at the outbreak of the recent trouble in the Balkans.

It was at one time thought desirable, and in August, 1906, the commission actually issued invitations for proposals to furnish Chinese laborers for the work upon the canal for a period of not less than two years, and to range from 2500 to 15,000, but an outcry against this Coolie importation was raised in the States, largely by the labor unions, and defeated this project, which would have furnished laborers at from 9 to 11 cents an hour, whereas the commission is at this time paying the West Indian negroes from 7 to 20 cents an hour, dependent upon their capabilities.

As a matter of fact, and so far as known, there is not a single American employed as an unskilled laborer on the

canal zone, and the use of the Chinaman would have in no wise "taken the bread from American laborers' mouths," as was persistently preached during this agitation.

Some of the West Indian negroes are employed as artisans, receiving from 16 to 44 cents an hour, while some 6000 to 8000 negroes are on a monthly basis, but the great majority of the negro laborers receives only 10 cents per hour. Spaniards and other Europeans are paid 20 cents an hour, although a few receive as little as 16 cents an hour. The Americans are always in charge of these forces, organized into gangs, and serve as foremen and supervisors. The engineering work is, of course, strictly under American control.

Quarters and Sustenance.

The Canal Commission undertakes to provide for the housing and sustenance of the laborers, as it was found by early experience that the negroes especially could not be relied upon to provide for themselves such shelter and food as would maintain them in a condition for active work; so now the quartermaster's department of the commission keeps the force recruited and housed, while another division of this department supplies the men with clothing, food and other necessities. The employes are mostly housed in frame structures of typical type, with broad verandas, thoroughly screened, the roofs being so designed as to permit the quick run-off of the tropical rains, and no gutters or other tin work are permitted, since they might offer receptacles for water and breeding-places for mosquitoes.

Quarters with light and water are supplied to all employes, but it is somewhat difficult to force the negroes to take advantage of these facilities, since their disposition is to segregate and crowd into less comfortable and well-kept quarters, exemplifying the negro's natural tendency in this respect.

The subsistence department, which supplies food, clothing and such necessities, does a business of between \$7,000,000 and \$8,000,000 per month, divided between commissary and hotel branches.

Twenty-two general stores in as many canal villages and camps are supplied daily through a train of 20 or more cars, which leaves Cristobal each morning at 4 o'clock and delivers along the line ice, meats and perishable articles from refrigerator cars, the balance of the train being made up of general supplies.

There are 18 zone hotels, providing for the higher grade white employes, while 17 messes supply European laborers, who pay 40 cents per ration of three meals; 16 kitchens serving a ration of three meals to the negroes at 9 cents a meal are operated by the Government. The monthly receipts from these line hotels, messes and kitchens amount to about \$100,000.

Culebra Cut.

The first chief engineer of the canal, Mr. John F. Wallace, in a report dated February 1, 1905, made the significant statements that the key of the canal problem was the excavation and removal of material in what is known as the Culebra division, approximately $7\frac{1}{2}$ miles in length, and that the completion of this division would be the controlling feature of the entire work in both time and cost; that the controlling factor as to time would be the number of excavating units which could be installed, operated and properly served with transportation facilities, and that the controlling element as to both time and cost would primarily lie in intelligent and vigorous executive control and in the maintenance of proper

relations between the various factors and facilities necessary for the conduct of the work as a whole. This prophecy has been amply verified in the conduct of the work during the past eight and two-thirds years of American control.

This section of the Continental Divide is called the "Culebra Cut," although the term was used by the French to describe the single mile of greatest excavation.

The cross-section showing the deepest part of this cut is 495 feet above the bottom of the canal at Gold Hill, and 364 feet at Contractor's Hill, opposite. The widest part of the canal through the Continental Divide is just north of these two hills, and, owing to the breaks and slides, is 1800 feet across from top of slopes.

In the entire central division something over 112,000,000 cubic yards is estimated as the entire excavation. The Chagres section of the central division is now practically completed, except for a little dredging, and of some 100,000,000 cubic yards in the Culebra section originally, on April 1, there remained about 7,500,000 cubic yards to be removed; hence this divisions is some 93 per cent. completed.

Geology of the Cut

For a proper understanding of the conditions which have made Culebra Cut the most formidable feature of this gigantic undertaking, a brief sketch of the geology of that section of the Isthmus is necessary.

What is known as the Continental Divide was in remote geological periods the axis of a down-warp or sag in the bedded rock, continuing to a depth of 500 feet. This depression was later filled with a fine-grained, volcanic ash from some adjacent volcano in eruption. The rocks so formed are of dark, soft and friable materials, the earlier formations showing a depth of about 250 feet. At this point are found the remains of marine fauna, fossil oysters, corals and the like, originally laid down upon the sediments of the sea, and since these fossil remains have been discovered entirely across the Isthmus, it is proven that the Caribbean Sea and the Pacific Ocean were joined at Panama at some distant period of the past.

Overlaying the lower strata, and to an equal depth, the sag remaining was largely filled by a second deposit of argillaceous sandstone, separated by layers of marly shale, intermixed with considerable carbonaceous matter. After a time the sea receded and land was formed as an overburden of gravel, sandstone, carbonaceous and lignite shale beds several feet in thickness, with evidences of land plants and indicative of a tropical swamp existence at remote periods. These several geological formations were evidently the processes of active volcanic eruption, followed by a quiescent period, during which masses of volcanic matter cooled and hardened, and were pressed up later through the overlying masses by upheavals through several hundred feet of such upper and softer crust.

The basalt and volcanic breccia found at Gold and Contractor's hills were projected through this overburden, but lacking stability of foundation, gradually settled back some hundreds of feet to their present elevations. These Titanic movements of the harder masses resulted in considerable faulting and shattering to an extent, which has contributed largely to the troubles of excavation.

Describing the difficulties of handling this material, and to emphasize the extent to which the stone was affected, the central division engineer remarked to the writer that it would be safe to offer \$1000 for any single cubic yard of stone from

the cut which would not show to have been so shattered.

Of the earlier formations the bedded rocks show a low crushing strength and comparative weakness; they weather badly and are easily subject to erosive processes, while, on the contrary, the later geological formations consist largely of hard, dark, close-textured rock of high tensile and crushing strength, except where shattered through the processes described.

Breaks and Slides.

Locally small slides come from faults, loose-jointed and shattered material becoming detached from surface erosion and weather, but the main troubles which have been experienced in the cut are due to structural breaks and to gravity slides. The gravity slides occur as a slipping of the overburden on the slopes of harder rock masses, their movement being glacial, advancing a few inches or a few feet a day. Such a slide is the Cucaracha, on the east bank of the canal, just south of Gold Hill. It consists of about 47 acres, breaking back nearly 2000 feet from the axis of the canal. This slide developed during the early French activities, and that company spent several hundred thousand dollars on diversion canals or drains of concrete along the crest of the hill, upon the theory that if the rainfall and ground water could be prevented from lubricating the underlying rock slope the movement of these masses would cease. Later developments have proven this theory to be fallacious, and it is now thought that the entire mass must come into the canal prism and be removed either by shovels or dredges.

The original direction of this slide was across the canal, but the movement is now parallel with its axis, permitting more shovels to be engaged in handling the material, and which to this time has amounted to between 3,000,000 and 4,000,000 cubic yards. The slide of the Cucaracha is of a normal or gravity variety, the overburden slipping along the harder rock, the line of contact being lubricated by rain and ground water, causing a slippery zone to form along the two layers.

The slope on which this mass moves or its angle of repose is somewhat steeper than 1 on 5, and as has been stated, no treatment has proven effective when such a slide is once developed, except in removing and hauling away the mass until the slide comes to rest.

To the north of the Continental Divide, at what is known locally as Hodges Hill, or just north of the village of Culebra, the second and most formidable type of slide is encountered. Here 50 acres have broken away on the east side of the cut and 75 acres on the west. This movement is caused by the tremendous weight crushing the stone at the toe of the canal prism as the bottom excavation is approached. The remedy for this is believed to be the removal of the overburden and lightening the load to be supported until the rocks are sufficiently strong to sustain the same. To this end, on each side of the cut three shovels are now at work at different terraces, the material being wasted on nearby spoil banks outside of the danger line.

The movement of this mass as it approaches the cut is like water going over falls in radial lines, and the angle of repose of this material is an inclination of 1 on 7. The causes of this so-called slide are due to the weakness of the underlying rock through which the canal passes, and the fact that the excavation removes the support from one side of the column of earth, or rock forming the walls or slopes, causing crushing and deformation. Undoubtedly the heavy blasting near these

slopes has intensified the strain and augmented the tendency to crush and slip.

A cubic yard of "run of cut" is estimated to weigh 3600 pounds, therefore at a depth of 430 feet there would be a pressure exerted of about 57,000 pounds per square foot at the base of the column, equivalent to 28½ tons. This factor was not given due consideration in the original planning for several reasons, amongst which were the fact that since the world began no excavation to this depth has ever been made before, and again, it was impossible to ascertain in advance the character of the bed rock at the depth represented by the finished grade. The tendency of these masses and weights is to buckle or press up the material in the bottom of the canal, and without warning this phenomena has frequently occurred, only recently the bottom bulging from 20 to 30 feet the hump extending for a distance of 1000 or more feet, the principal effect being the disarrangement of numerous tracks in the bottom of the cut, thereby delaying the work to a greater extent than that due to the additional material coming into the cut itself. One remedy for this condition is to lighten the load, which is being done, as stated.

The original slopes through this section as planned by the French was ¾ on 1, while the International Board of Engineers recommended 3 on 2, and, as has been shown, some of these breaks and slides will move on as flat a slope as 7 on 1; consequently, a very large proportion of the canal excavation at this time is outside of the canal prism.

Some 26 slides or breaks of considerable extent have been encountered, 17 covering areas varying from 1 to 75 acres; in all, a total of 225 acres. During the past year 60 per cent. of all the material removed from Culebra Cut was outside of the canal prism, and due to those breaks and slides, and it is estimated that the total amount of material which will be removed because of these slides will aggregate between 20,000,000 and 25,000,000 cubic yards, amounting to 20 per cent. of the total excavation, costing upwards of \$10,000,000.

These numerous, extensive and costly slides, beginning with the French occupation, and likely to continue for a considerable period even after the cut is flooded, will eventually come to rest, although, as with the Suez Canal, dredging will be more or less continuously carried on during the operation of these works, removing eroded material which will be displaced by weather and the waves created through traffic.

To all practical purposes and extent the Culebra Cut, the controlling factor of Panama, is all but completed, and these slides, although troublesome, must be regarded simply as an incident of construction.

Excavation.

Most of the excavated material in the cut has consisted of rock, varying from a soft marl to a close-grained and hard basalt and trap, which has to be drilled and blasted before it can be removed with the shovel and trains. Two types of drilling machines are in use, the tripod and the well drill, both obtaining power from compressed air. Drill holes are placed about 18 feet apart, and are 27 feet deep on an average, the shovels excavating to 24 feet. Forty-five per cent. dynamite is generally used, a pound of this material for every 2¼ cubic yards of material blasted. For several years 3000 tons of dynamite a year has been used in the cut alone.

As was early seen by Chief Engineer Wallace, the controlling factor as to the time of completing the canal would be

the number of excavating units which could be installed, operated and properly served with transportation facilities in the cut.

At the present time 36 steam shovels are in operation, the most of which employed in the Culebra Cut being equipped with five cubic yards capacity dippers, one of which, a 95-ton Bucyrus, excavated in March, 1910, 4465 cubic yards during a working day, and for the same month took out a total of 70,290 cubic yards. This shovel has been working for the last two years on the Cucaracha slide without ever moving from the shovel track.

Drainage.

One of the peculiarities of the Panama Canal Zone and remarkable feature is the rainfall. Although the Isthmus at this point is only about 50 miles across from the Caribbean to the Pacific, the rainfall averages 130 inches on the shores of the former, while only 70 inches at the Bay of Panama.

At Porto Bello, Atlantic side, in November of last year 7.6 inches of rain fell in 12 hours, while the maximum fall for five minutes amounted to approximately 2.48 inches. During the same year there was officially reported for the Atlantic section an average rainfall of 116.45, central 79.10 and Pacific 67.21, and from which it will be seen that the central division is about the mean between the other two in the matter of precipitation. This is accounted for by the fact that the general direction of the wind is south, and that moisture in the shape of clouds drift across the Isthmus from north to south, gradually exhausting the water supply in the passage across the Isthmus.

On the Atlantic section in 1911 there were 265 days of rain, whereas on the Pacific division 172 days were reported. The dry portion of the year is from December until May. During the remaining months, known as the "rainy season," great difficulty is experienced in the matter of drainage, since the line of the canal follows the valley of the Chagres on the north side of the divide, crossing the pass at Culebra and continuing along the valley of the Rio Grande on the south side toward Panama City. To prevent these streams, swollen by the tropical rains, from pouring their torrents into the canal, diversion works of great extent and cost have been necessary for the protection of the canal at Culebra.

During the past year the diversion channel on the east side of the cut, carrying the waters of the Obispo River and its tributaries, gave considerable trouble, cracks appearing, indicating a motion of material lying between the diversion and the cut proper, and immediate steps were taken to relocate the diversion canal at this point, so that should a slide occur the waters of the diversion would not pour into the cut.

In the canal itself the summit of drainage is opposite the town of Culebra, from which water flows to the south, draining into the Pacific through the central culvert of Pedro Miguel locks. At the north of the cut a dike which has been built to keep out the waters of the Chagres River remains intact, and there a pumping plant serves to handle the water which drains to the north from the summit.

At this time the summit at Culebra is about 26 feet above finished grade, and slopes to a feather edge for about two miles in either direction, with a central drain for accumulating and handling the water which falls on the slopes and in the canal bottom. Through this wedge a single cut of 10 feet has been made for this purpose.

Exclusive of the slides, this wedge of

material is all that remains to complete the Culebra cut excavation.

Transportation.

To even a layman it seems apparent that the pre-eminent consideration at Panama is that of transportation, and this particularly applies to the work in the Culebra Cut. It also is certain, even to an inexperienced eye, that the organization of the transportation department is well nigh perfect, and that the closest attention is given to the movement of trains in and out of the cut. At this time 126 locomotives are engaged, utilizing 2300 cars, mostly of the Lidgerwood type. These are made up in trains of 21 cars, 55 trains, operating north, and the same number south, on an average haul of seven miles. The southbound trains deliver the heavier material to the breakwater at Balboa, the Pacific terminal, and those operating north for the most part now waste at convenient dumping grounds.

The average time consumed in unloading flat cars is from 7 to 15 minutes, the capacity of the train being about 400 tons. The unloading is done by plows weighing from 14 to 16 tons, operated by a cable upon a winding drum. Although the operations in the cut extend over about nine miles, over 100 miles of track is installed, averaging nine parallel tracks at all points, in order to maintain which a mile of track is to be removed every day.

An astonishing thing to the average visitor is the fact that these construction tracks are so well ballasted, which permits the construction trains to operate at schedule speed of from 20 to 25 miles an hour. At a point midway of the cut is the superintendent of transportation's tower, and trains are moved by flagmen, wig-wagging with colored flags. Whenever a shovel goes out of commission for any cause it hoists a red flag, and immediately especial attention is directed toward that unit by the transportation and equipment officials.

Filling the Canal.

It is expected by October 1 that the Gatun Lake will have filled so as to cover its 164 square miles, and it has been the announced intention of the chief engineer to remove the temporary dam, or retaining wall, which fills in the northern end of the Culebra Cut near the Gamboa bridge across the Chagres, so as to flood the cut. It has been urged that flooding the canal would effect a counterbalance pressure against the canal slopes, and would tend to check the masses now going into the canal prism, but as a matter of fact this advantage would be of small moment, since the maximum depth of water in the cut is only 45 feet and the height of the slopes where sliding might occur is from 75 to 300 feet. The sliding material has a specific gravity of about 2.7, hence 45 feet of water would balance only about 18 feet of slide if the pressures were evenly distributed. Against this it has been assumed that the material would be softened by the introduction of water, and that the tendency to slipping and breaking would be greater on account of this added source of weakness.

It is perhaps fair to assume that these two conditions will offset each other, and that the real advantage of turning the water into the cut would be to introduce the flotilla of dredges, superseding the shovels now employed. These sagoing dredges have on sea level operations of the canal done exceedingly good work, excavating at a cost around 20 cents a cubic yard, whereas the present cost of the shovel work is about 50 cents a yard for cut classification. There is, however, a condition which must be considered with

flooding—that of handling the remaining material in the canal, largely consisting of rock under water, besides which, in the moving masses, which may be expected to continue as slides into the canal prism, are enormous boulders and stratified stone ledges, which would then have to be removed from water after subaqueous blasting.

Although the Canal Commission is equipped with stone-breaking dredges, the majority of these boulders would have to be blasted before removal, besides which there will then remain over 2,000,000 or 3,000,000 cubic yards along the canal bottom, 80 per cent. of which would be material also requiring blasting. While the conditions at Panama are different from elsewhere, and are a law unto themselves, in other subaqueous work in rock, as is very well known, the practice is to build a cofferdam, pump out the water, blast the rock and introduce steam shovels or other methods of removal and transportation.

At Panama the cofferdam is already provided by the levee or dike at the north end of the cut. The water can rise in the lake, flooding the central division to this dam at Gamboa; the locks can be tested out and the work of removing the rock bottom and the boulders described could proceed on hard dry ground, with tracks and shovels now working to a high efficiency continued in use. Rock now coming from the cut is not costing more than 60 cents a yard, whereas dredging in water over 25 feet is notoriously an expensive process, and the cost of removing this remaining material would certainly be high, perhaps \$2 a yard and upward.

For these reasons, it is to be hoped that the chief engineer will reconsider his determination to flood the Culebra Cut with the other portions of the canal; especially so, as there seems no especial demand for progress at this point at so great an expense. Recent reports from Panama, however, show that a 12-hour shift on shovel work has been ordered, and the indications seem to be that the chief engineer will persist in his original decision in this matter.

The Man Behind the Gun.

Magazine writers and press correspondents with tendency to hero worship have generally seen only one commanding figure on the Isthmus, that of its chief engineer and commission chairman. For this reason scant mention, except by way of introduction, has been made of two other members of the commission appointed by President Roosevelt in the order creating the chairman, and selected because of their distinguished ability and the especial fitness of each for the work from the Engineer Corps of the Army. These two splendid officers are Lieutenant-Colonels Gaillard and Sibert, both men of Southern birth. To the one was assigned the great series of locks and the tremendous dam and spillway of the Atlantic division, while to Colonel Gaillard came the opportunity of Culebra, the prominent problem of Panama.

Lieutenant-Colonel David DuBose Gaillard was born of distinguished Huguenot ancestry some 54 years ago at Sumter, S. C. Entering the military academy at the age of 21 years, he graduated in 1884 with such high-class standing as to assign him to the exclusive engineer corps of the United States Army. Since, Colonel Gaillard's army record is a succession of brilliant achievements and conspicuous service. During the war with Spain he was commander of the Third Regiment of Engineers, U. S. V. Later as a member of the International Boundary Commission, he directed the line survey between the United States and Mexico. Superin-

tendent of the Washington Aqueduct, Assistant United States District Commissioner and other assignments followed, but his work in connection with the harbors and breakwaters of Lake Michigan, and his contribution to technical literature, "Wave Action in Relation to Engineering Structures," focussed public attention, and was largely responsible for his appointment on March 16, 1907, as a member of the Canal Commission and his later assignment as supervising engineer in charge of dredging in harbors, building breakwaters, etc. The year following he was given charge of the central division, where he has had continuous control during the past five years.

Activities of San Antonio.

A CENTER OF RAILROAD CONSTRUCTION AND OTHER DEVELOPMENTS.

[Special Correspondence Manufacturers Record.]

San Antonio, Tex., May 17.

With alluring climate, an atmosphere of romance, and a city of architectural delight, all steeped in verdure of semi-tropical luxuriance, San Antonio has long been one of the most charming cities of the nation for the visitors to revel in. Many modern hotels now provide comforts suited to the most fastidious requirements, and country clubs, golf links, entertainments and fiestas furnish diversion the season through. Good roads provide present fine facilities for motoring to the great military post and to the picturesque old missions roundabout, and trips may also be made to the rugged broken country to the north and west, and to quaint and interesting villages nearby. Good roads will be extended and improved, but it is already an easy journey to the highland north and west, where a 2000-foot elevation gives a cooling atmosphere the hottest night in summer.

Corpus Christi is not so far away on the south that it will not become within easy jaunting distance when roads and transportation facilities are improved, and here is one of the finest bathing beaches in the world and comfortable and luxurious hotels for those who want to tarry.

San Antonio's entertainment activities have been great. The hotels have been thronged with tourists and packed with conventions. The fiesta and floral parades never were so fine, and never was the attendance so large. Visitors and home folks vied with each other in the gayeties, and altogether the season has been a notably joyous and busy one.

Now San Antonio is thinking of serious things. The position of the city has been strongly established as a haven of delight. The next thing is to provide the broadest kind of a foundation for a material development of the most substantial sort. The spirit of the people is aroused to undertake big things that will make for permanent every-day prosperity that will last. Millions for street paving, sewers and other municipal improvements are proposed, and an organized effort for industrial development. New railroads are already being built to open up new tributary territory to settlement and trade. Great irrigation projects are completed, under way and in contemplation, giving to the vision of improvement all the angles of a more completely equipped city in which to live and do business; a more densely settled surrounding territory in which producers will furnish the necessity for a larger trading center; the industries that are required in a thickly populated section, and the transportation facilities necessary for expanding commerce.

Altogether the outlook for San Antonio

Today Colonel Gaillard may safely be said to be the highest living authority on earth excavation, the theory of earth slides and the effect and economics of explosives, while his knowledge of train movements and transportation would undoubtedly bring him high recognition if in position to consider commercial offers and railway managerial engagements. But to the task so nearly completed his whole soul, with its intensity of purpose, is steadfastly directed, and on that great day when this wonderful canal is open to the marine traffic of the nations, to David DuBose Gaillard as much as to any living man will be due the colossal achievement of "A Land Divided; a World United."

to achieve a many-sided development is apparent now to even the mere surface observer. The foundations are well laid, the people are energized and the forces for development are at work.

By January 1 of next year the San Antonio, Uvalde & Gulf Railroad will be completed to Corpus Christi, rounding out a system of 350 miles. This is the so-called Franklin road, of which J. E. Franklin, St. Louis, is the principal stockholder. Two hundred and thirty-two miles are now in operation. Of the remaining 118 miles, 25 are laid and 50 additional graded. Twenty-five hundred men are at work, and the most up-to-date machinery is used, such as American ditchers, Lidgerwood unloaders, Roberts tracklaying machines, etc. An eight-stall roundhouse and the machine shops are at Pleasanton, as is also a new \$10,000 depot and office building 36x80 feet, mission style, two stories, brick and concrete, with tile roof. Pleasanton will be division headquarters and main operating point. The general offices will remain at San Antonio.

This road is a consolidation of some smaller isolated projects, with connecting lines and extensions. The various lines penetrate a very fertile country. Of the 1500 artesian wells in Texas, over 400 are adjacent to the road. It goes through four cattle ranches, aggregating 400,000 acres. They are being cut up and sold in small farms and truck patches, as the land is adapted to both staple and fancy crops.

One branch starts from the Southern Pacific at Uvalde, 92 miles west of San Antonio, and runs down the Nueces Valley to Carrizo Springs, 53 miles. A branch line to Eagle Pass is proposed from Crystal City, 12 miles above Carrizo Springs. The main line runs south from San Antonio to Pleasanton Junction, where one branch runs to a connection with the Uvalde branch, while another heads for Corpus Christi and Aransas Pass down the Nueces Valley. From Pleasanton down staple crops are raised without irrigation. It is valley land all the way to the coast, and is being rapidly developed and will soon all be in farms.

There are no bonds on any of the present construction. However, the railroad commission has been asked to make a valuation so that bonds may be issued, releasing the individual funds represented in the construction.

As the Nueces Valley is one of very great fertility wherever the lands are irrigated, the Franklin road promises to become a feeder of great importance to San Antonio.

Another road under construction is the San Antonio, Fredericksburg & Northern.

Richard A. Love, formerly of Kansas City, is president and owner of this road, which also is being built without bonds on the construction. Although but 25 miles long, it is of great strategic importance, as it gives direct transportation into San Antonio to a rich territory that heretofore was accessible only through a roundabout route, and the obstacle to previous construction has been the excessive cost, a tunnel through a rocky shelf being necessary. Mr. Love aroused the interest of individuals, towns and cities that would be benefited and secured enough to build the road. His line leaves the S. A. & A. P. where it crosses the Guadalupe River, and strikes north to Fredericksburg, in Gillespie county, an old German community, prosperous and wealthy, but in a section of several counties now without a railroad. Getting through this long rock ledge has deterred railroad builders from coming south or going north. It is Mr. Love's avowed purpose to extend his line to a connection with a system either northwest or north as soon as possible after the present line is built. The Fredericksburg road, as it is called here, will be completed July 10. It is a good road, all stone ballast, 3100 ties to the mile, 65-pound rails. Where the tunnel emerges from the ledge on the north there is a level table land, with an easy ascent to the highest part of the ledge or escapement. Here a suburban town will be built, with electric lights, water, sewers, etc. Having an elevation of 2000 feet, the nights will never be uncomfortably warm. Splendid views of the valley and lowlands are obtained, giving scenic delights along with bodily comforts. A gasoline car service will give low rates to San Antonio commuters who may make their summer homes up there.

The San Antonio, Rockport & Mexico Railroad is an English enterprise which some time since announced its purpose to construct a standard high-grade line, but whose plans have not yet been developed.

An interurban line between San Antonio and Austin, a distance of 80 miles, is in process of promotion.

No feature in connection with the future development of San Antonio is of similar importance to the irrigation of the semi-arid lands stretching out to the south and southwest and containing hundreds of thousands of acres of marvelously fertile soil, mostly useless now through lack of moisture. When given water with reliability and sufficiency, wonderful crops of almost everything that grows may be raised. Without moisture not enough grass will grow on 30 acres in many places to properly support a cow. It is one of the significant facts in present and prospective development that a great deal of attention is now being given to irrigation projects in this section.

The Medina irrigation project, representing an investment of \$5,000,000 or \$6,000,000, has been completed for some time, and only awaits the filling of the enormous reservoirs to begin the irrigation of a vast acreage of Medina Valley lands a few miles to the west and northwest of San Antonio. Thousands of people will come to till these acres when operations are under way; towns and villages will be required to supply the needs of the populace; suburban railroads will be constructed for their convenience and to give communication with San Antonio, and San Antonio's trade and commerce will gain great benefit from the settling up of these lands.

In the Upper Valley of the Nueces River conditions are similar to the Valley of the Medina, as in fact they are substantially throughout all the immense

area lying southwest from San Antonio. An irrigation project to supply from 50,000 to 60,000 acres in the vicinity of Cotulla has been brought out, and is securing the co-operation of all the landowners in the section. Without water the lands cannot be sold for \$20 an acre; with it, they will easily bring \$100 or more. From the ready response given to the proposition, its successful completion seems a certainty. There will be two reservoirs, or diversion dam and reservoir, which will have a storage capacity of over 5,000,000,000 cubic feet of water. The drainage area above the diversion dam is said to cover 7000 square miles. It is estimated that the undertaking, dams, machinery, canals and everything will cost about \$1,500,000. Matt Russell, an agriculturist and irrigation expert of Cotulla, is president, and Judge Noah Allen of San Antonio, vice-president and general counsel of the company, which is called the Cotulla Reservoir & Irrigation Co., Inc.

In addition there are a number of other projects in various stages of preliminary development, and which seem likely to eventually materialize, there being a very decided trend in the direction of securing irrigation wherever conditions justify the outlay.

ALBERT PHENIS.

LEVEE CONSTRUCTION PROPOSED.

Government Planning \$60,000,000 Expenditure Along Mississippi River.

In the next 30 to 50 days bids will be received for levee construction along the Mississippi River between Cairo and the White River to the extent of about \$800,000 worth of work, to be performed in several contracts running from 6 to 18 months. It is possible that work of similar character during the season of 1914 and thereafter for a number of years will be let to the extent of several millions of dollars per year. The work consists of levee construction along the customary lines, and although heretofore performed by teams, it is highly desirable that machine work, as well as team work, should be encouraged by reason of the largely increased quantities likely to be involved and the fact that the work will probably be let in continuous stretches of many miles. Heretofore animal labor has necessarily been used almost exclusively by reason of the non-continuity of the work, involving excessive expense in moving machine equipment from place to place. This work falls within the province of the Mississippi River Commission, First and Second districts, with headquarters at Memphis.

The Ransdell bill, now before Congress, contemplates levee construction throughout the Mississippi Valley, beginning in 1914, to the extent of about \$12,000,000 per year for five years. Such an expenditure practically demands machine work and offers an unusually attractive field for the development of machinery suitable for the purpose. It is the desire that contractors from a distance come into the valley during the present season, familiarize themselves with conditions and be prepared to bid upon the large amount of work anticipated for the succeeding years.

Bituminous Coal Shipments.

In the first quarter of 1913, according to the *Coal Trade Journal* of New York, the Pennsylvania, the Baltimore & Ohio, the Norfolk & Western, the Chesapeake & Ohio, the Virginian, the Western Maryland and the Pittsburgh, Shawmut & Northern Railroad lines hauled 32,463,985 tons of bituminous coal, an increase of 89,970 tons over the same period of 1912.

TO DEVELOP TEXAS LAND.

Capitalists Purchase Nelson Morris Ranch of 223,000 Acres for \$2,000,000.

The O. W. Kerr Company of Minneapolis wires the MANUFACTURERS RECORD as follows:

"Outside capital purchased Nelson Morris ranch near Midland, Tex.; 250,000 acres; approximately \$2,000,000; arranged with this company to take full handling of developing, subdividing into small farms, putting down wells and colonizing lands, with irrigation; desirable for mixed farming; corn, cotton, alfalfa, milo and raising stock."

Referring to this proposition, T. C. Carrington, secretary of the Midland Commercial Club, writes to the MANUFACTURERS RECORD as follows:

"The 'C' ranch, the famous Nelson Morris property near Midland, has been sold. It will be cut up into small irrigation farms and colonized at once. This is the largest single land deal that has been consummated in the entire South for a long time. The ranch comprises over 223,000 acres in one block. Representatives of the Kerr Company have spent months in the Southwest seeking a desirable colonization proposition, and the presence of abundant shallow water at Midland, combined with the rich fertility of the virgin soil, finally decided the company to buy the Morris ranch. The 'C' was bought about 20 years ago by Nelson Morris, the late millionaire Chicago pork packer and cattle man. The land lies in four counties—Midland, Martin, Andrews and Ector. It is about the same size as the kingdom of Montenegro. It has 400 miles of wire fencing, 90 wells and windmills; it takes several days of steady travel to go around it. The ranch at one time had over 20,000 head of registered Polled Angus cattle, and was the pride of Nelson Morris during his lifetime."

INVESTMENT BANKERS.

Action at the St. Louis Meeting of the Association's Governors.

At the third quarterly meeting of the board of governors of the Investment Bankers' Association of America in St. Louis the reports of the legislative committee and the counsel of the association were given chief consideration. After a lengthy discussion of the status of "blue-sky" legislation, in which it developed that 17 States have already enacted statutes to regulate the purchase and sale of securities, the board of governors passed the following resolution in the interest of legitimate investment banking:

"Resolved, That the board of governors of the Investment Bankers' Association of America, having fully considered the so-called blue-sky laws which have been passed and are now under consideration in various States, commend such laws as will protect the investment public from fraud, and urge upon its members the fullest co-operation with State officials having charge of the enforcement of such laws. That they feel, however, that some of said laws are contrary to the right of free contract, and demand the filing of such reports and statements as will make legitimate investment dealings impossible; so much so that they feel that parts, at least, of such laws are impossible of enforcement. The board of governors of the Investment Bankers' Association recommend, first, that all members act together in the matter of compliance with State requirements; second, that where laws are clearly unconstitutional or impossible of enforcement, joint action be taken to test

or amend such, in order that the public be helpfully protected and legitimate business be placed upon a satisfactory basis."

The attitude of the association toward the present proposed income tax was also considered along with the briefs recently filed by the counsel of the Investment Bankers' Association with the committee on finance of the United States Senate. This brief was filed by the association on behalf of the investor for the purpose of urging such amendments to the pending income tax bill "as may seem necessary to carry out what the association believes to be the intent of its framers, and to make the proposed law workable and just in its operation."

Chicago was selected as the meeting place of the next convention of the association. This gathering will convene early this fall. The date has not yet been determined. Cleland's invitation for the next meeting of the board of governors was accepted. This meeting will take place probably in August.

A committee of five was elected to report to the next convention of the association on the matter of nomination of officers for the next fiscal year. This committee consists of J. Herndon Smith, St. Louis, chairman; Charles A. Otis, Cleveland; Stedman Buttrick, Boston; Henry L. Duer, Baltimore, and Charles W. McNear, Chicago. St. Louis, where the board members were entertained in their gathering, is represented on the governing list of the Investment Bankers' Association by William R. Compton, J. Herndon Smith and Harold Kauffman, who offered an unusually attractive social program to the visiting bankers.

Spartanburg Attractions.

Editor Manufacturers Record:

This is a record year of improvements at Spartanburg. Miles of paved streets are in course of construction. Many old buildings are being replaced with modern ones of brick and steel. The interurban railway is nearing completion into the city, and will erect a fine passenger depot. The Southern Railway and the Carolina, Clinchfield & Ohio Railway companies have many improvements in contemplation. All the cotton mills in this country are running on full time. Many traveling salesmen are making this city their headquarters and others are preparing to move their families here, where they may enjoy the advantages of schools and colleges, of churches of nearly all denominations and a fine climate. The city, at the foothills of the Blue Ridge, has a fine supply of freestone water, and there are mineral springs in this county, some near enough to the city to be reached by the car line. Many hotels and board-houses accommodate health-seekers and tourists.

J. G. MANSFIELD.

Spartanburg, S. C.

An Exhibit by Architects.

The Architects' Association of Richmond, Va., is making this week at the Business Men's Club an exhibit of buildings designed in that city and either fully completed or now under construction. The exhibit includes 40 large colored views and 190 photographs of buildings, costing in the aggregate between \$6,500,000 and \$7,000,000, and it is designed to show the wide range and the character of the work done by the local architects. The officers of the association are: Albert F. Hunt, president; Charles M. Robinson, vice-president, and J. Ambler Johnston, secretary and treasurer.

ATLANTIC DEEPER WATERWAYS.

Call for the Next Convention of the Association at Jacksonville.

President J. Hampton Moore of the Atlantic Deeper Waterways Association has issued his call for the sixth annual convention of the association to be held at Jacksonville, Fla., next November 18-21. In his call President Moore says:

"The city of Jacksonville offers a remarkable example of civic courage and progress. Step by step, at times in the face of severe misfortune and discouragement, the city has utilized and developed its natural advantages of location and has become the central shipping point for a great and rapidly growing productive region. Down, through and across the Florida peninsula is being perfected a system of waterways that are rapidly opening up to settlement some of the richest lands in the country, the product of which is largely in demand in the North. In this way there is being created a tremendous volume of shipping which has called for the rapid improvement of the St. Johns River and for the development of the port of Jacksonville as a center for north-bound shipment.

"During the past year a special session of the Florida Legislature, called by request and at the expense of Jacksonville, authorized a bond issue of \$1,000,000 for a public dock system in that city, which was submitted to popular vote and carried almost unanimously.

"Attention is now being given also to the remarkable facilities of Jacksonville as a point of distribution through the protected inland channels, which are feasible all the way to the coast of Maine. How closely this Southern group of waterways is being brought into connection with the northern section of the intra-coastal chain is but little understood. The last rivers and harbors bill provided for the improvement of one of the links immediately north of Jacksonville. The Government has recently taken over and opened to free traffic the important link connecting Norfolk and Beaufort, and our influence is being forcibly directed toward the next important link—to connect the Chesapeake and Delaware bays. All along the seaboard territory popular interest in waterway improvement is aroused, and the demand of the business interests is making itself heard in no uncertain tone. From the Great Lakes, from Central New York and the upper Hudson, from the Connecticut Valley, from the Taunton and the Merrimack rivers, from Cape Cod, from the waterways surrounding New York city, from the progressive State of New Jersey, with its ship-canal project so magnificently inaugurated, which only a few weeks ago has been brought into direct connection with the city of Philadelphia through the completion of the 12-foot upper Delaware channel; from Delaware and Maryland, everywhere come insistent demands for intelligent co-operation in the completion of the comprehensive chain of public inland waterways mapped out by this association at the time of its organization and steadily urged since that time. The movement is under way from Maine to Florida, and is bound to gather headway until our object is accomplished. The present year is one of singular opportunity to increase and to utilize the interest of the Southern seaboard States in support of this great project. At this time, also, it is doubly important that we assemble in force in Jacksonville to emphasize our demand for steady and rapid progress on the Atlantic waterway project."

Water-Power Development in the Ozarks of Missouri

[Editorial Correspondence Manufacturers Record.]

Springfield, Mo., May 19.

The development of 200,000 hydro-electric power in Southwestern Missouri is one of the giant plans now being worked out in this section. Already a dam has been completed to provide 24,000 horse-power, and the power plant is nearing completion. The next development will probably be the dam at Virgin Bluff, on the James Fork. This is to be followed, if auspices are favorable, by the construction of additional plants as the market warrants, until an aggregate of between 200,000 and 300,000 horse-power will ultimately be made available.

"Midway between the Appalachian Range on the east and the Rockies on the west, rise a group of hills sometimes called the Ozark Uplift. These low mountains, whose extreme altitude does not exceed 2200 feet, occupy the lower half of Missouri, extending into Northern Arkansas and Eastern Oklahoma.

"The Ozark Uplift, in Missouri locally named the Ozarks and in Arkansas as the Boston Mountains, has long been known to be rich in minerals, timber, horticultural and water-power possibilities. Romantic scenery, pure water, equitable climate, abundance of wild game, fish and

fruits have been sufficient for the needs of many of the descendants of pioneers from Kentucky and Tennessee who first settled the land in the days of Napoleon. However, capital has seen the potentialities of the Ozark region and begun the heavy investment of energy here. The Doherty Operating Co., of 60 Wall street, New York, is leading in the development that will make of these Ozarks one of the busiest and most prosperous regions in the country.

"Nearing completion at the present moment, opposite the town of Powersite on the White River in Taney county, Missouri, not far below Hollister-on-White-River (already well known as a popular resort and the site of the Young Men's Christian Association Inter-State Recreation Camp), is the Ozark dam and power plant, the first step in a gigantic hydro-

electric project, involving the ultimate expenditure of many millions of dollars, with a potential power possibility of over 200,000 horse.

"The dam and power-house are being built by the Ambursen Hydraulic Construction Co., Boston. The dam is one of the Ambursen type; hollow construction, 50 feet high, spillway 600 feet between piers, with 600-foot alluvial and rock dike reinforced with concrete core. The power-house is 200 feet long, equipped with eight pairs of 48-inch horizontal water-wheels directly connected to eight 2250 K. V. A. generators, 2200 volts, 25 cycles, three-phase, installed by the United Electric Co. Five of the above units will be placed at once, the remainder later when contemplated reservoir dams are built.

"Above the Ozark dam the White River



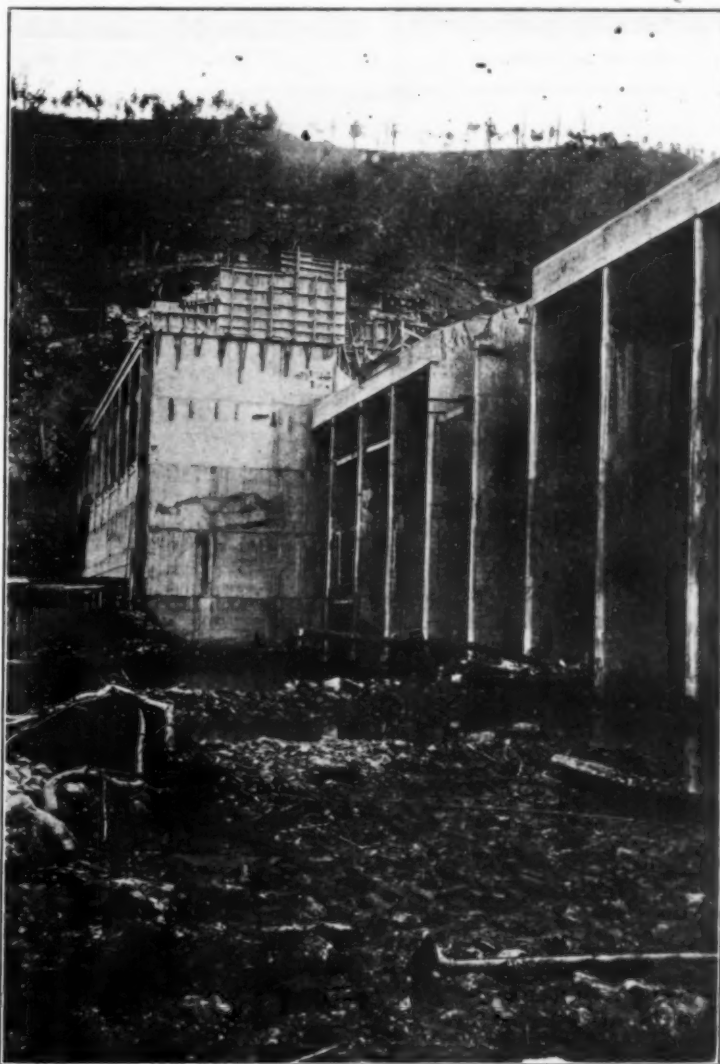
PARTLY COMPLETED POWER-HOUSE AND COMPLETED DAM OF WHITE RIVER HYDRO-ELECTRIC PROJECT AT POWERSITE NEAR HOLLISTER, MO.

The territory to be served is one worthy of such vast operations. Agriculturally, the region surrounding Springfield and in much of the adjacent district is one of the richest and most inviting to be found in any part of the land. The mineral wealth of much of the region to be served by this development is exceptionally great; for in this district is the Joplin lead and zinc region, the center of the world's activities in the output of these metals.

The work of dam construction and the utilization of the White River has gone on so quietly that the magnitude of the enterprise has not been fully recognized even in this immediate territory, where water-power development on such a large scale is comparatively unknown and is less understood than in the piedmont region of the South. Nevertheless, the extent of this operation, in its ultimate development, rivals that of most of the great hydro-electric operations in the central or Appalachian South.

This water-power development is being made by the Doherty interests of New York, and the construction work on the dam and power-house now under way is by the Ambursen Hydraulic Construction Co. of Boston. That the completion of this unit hydro-electric power plant will mark the turning-point in the industrial and mining operations of all this region is certain. Outside of the Joplin-Webb City mineral districts, manufacturing enterprises have not been largely developed, but the potentialities of the district are very great, and will sooner or later result in a very broad industrial development and in the still larger utilization of the resources of the lead and zinc district.

Mr. William H. Johnson of Springfield furnishes the following particulars in regard to the work and to the territory to be reached:



UNDER THE DAM ACROSS WHITE RIVER.

drains a watershed exceeding 4000 miles in area, having an annual rainfall of nearly 45 inches. Four reservoir dams are planned, one of which is now under construction on the James fork of White River, 100 miles upstream. This dam will be 60 feet high, 1500 feet long, and will impound more than 1,000,000,000 cubic feet of water. Above the back waters of the first reservoir will be another of equal proportions.

"A bill is pending before Congress for a second reservoir dam just above the town of Hollister, and it is sincerely hoped by the people of Taney county that the bill may become a law at an early date. When built, the dam above Hollister will be 95 feet high, 1400 feet long, and will impound a lake 40 miles long, holding in reserve nearly 5,000,000,000 cubic feet of water. The back waters above the Hollister dam will reach to the dam at Virgin Bluff on James fork. Up the White River proper is still another site where a dam may be constructed, creating a reservoir of great capacity. Dams can also be built across Long Creek, War Eagle and Kings River, all large tributaries of the White, each having a storage capacity of several billion cubic feet. All the storage dams will be in connection with power plants, each developing from 6000 to 20,000 horse-power.

"After the construction of reservoirs assuring a continuous and ample flow at all seasons, the 24,000 horse-power to be developed at Powersite can be duplicated at Moore's Ferry, 25 miles below by water, but only four by land across cut-off. To augment the capacity of the future power-house at Moore's Ferry, storage dams can be built across Swan and Beaver creeks, adding at least 5,000,000,000 cubic feet of reserve and creating 5000 additional horse-power.

"Below Moore's Ferry, White River

makes a great loop into Arkansas, returning to Missouri. This loop is 25 miles long, but only six or eight miles across. A fall of 2.6 feet per mile permits a dam 60 feet high near Tibbett's Ferry, where the increased flow will develop fully 40,000 horse.

"But this is not all. There is yet 100 miles of tortuous river between Tibbett's Ferry and Cotter, Ark., with a drop of fully 200 feet, which will some day be absorbed by four dams, developing, with the ever-increasing flow augmented by numerous large tributaries and additional storage reservoirs, at least 200,000 horsepower. In fact, a bill is now before Congress asking the right to dam White River at Cotter.

"But how will this tremendous power be utilized?

"In the beginning, it is being transmitted to nearby towns and villages. One transmission line runs north from Powersite to Springfield, a city of 45,000. Here,

ways reaching into the heart of the Ozarks and extending to the sea." R. H. E.

ON MISSISSIPPI'S COAST.

Beginning of Development in the Back Bay Region.

[Special Cor. Manufacturers Record.]

Back Bay, Miss., May 22.

The beautiful Back Bay lies on the north shore of the Gulf coast peninsula, having a coast of its own, as delightful as any, yet almost unknown. Not much change has taken place during the centuries that have elapsed since the discoverer, Iberville, erected a cross near the entrance of the bay in 1699. The cross still marks the spot. Iberville says: "We made choice of this point on account of the sheltered bay, where small vessels can come and go safely at all times."

The waters have silently washed its shores into rugged picturesqueness. Fishermen are busy at all seasons with their

to be expanding with pride to reach the prophecies of their desires. As yet there are no facilities for the people of these towns to visit this coast and enjoy its beauties, as all their traffic is on parallel lines. Two or three good avenues extend out on tangents, but in time an electric line will come as a fundamental outcome of settlement and growth. The country is undeveloped. A few residents show what can be accomplished with fruits and vegetables.

Three-year-old satsuma orange trees are bearing prolifically. By a capillary attraction the water of the bay on the north side proves advantageous to citrus fruits in winter. The fig flourishes on hammock land, where the soil is well drained and filled with an abundance of humus to conserve the moisture during dry weather. The basis for an ideal soil is found here, where there is a deposit of sea shell.

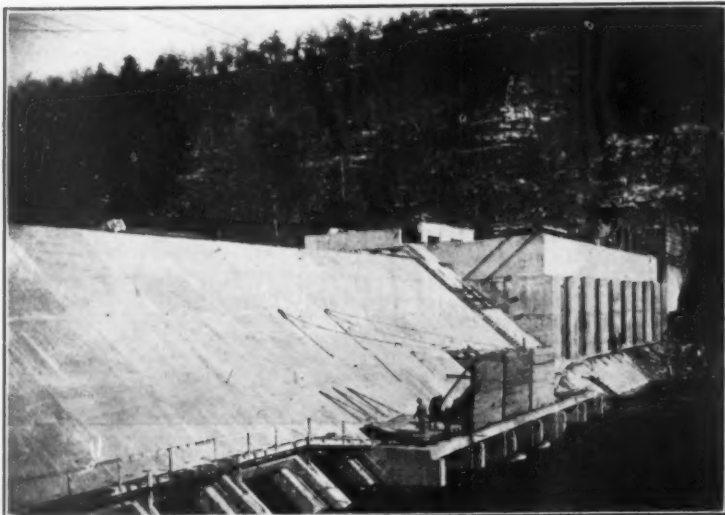
tered about, are co-operating and shipping with large growers at Long Beach to Northern markets, having an agent to look out for their interests up there.

Poultry, cattle and hogs do well. Hogs fatten in the fall on pine mas and acorns, and are fed only about one month on corn before butchering. They are in good condition, and the meat when cured keeps perfectly. Hams and bacon are best at a year old.

Bees would be a profitable industry. Those raised on orange groves produce a fine quality of honey.

Sheep raising is an important industry on the north side of the bay, the wool bringing better prices than any of the adjacent sheep-raising districts. The sheep have free range and no shepherds, there being no enemy to harm them.

Artesian water is reached, chemically pure, from 400 to 600 feet. Fish ponds can be constructed cheaply and supplied



UPSTREAM VIEW OF DAM AT POWERSITE BELOW HOLLISTER, MO.



INCOMPLETED DAM ON WHITE RIVER BELOW HOLLISTER, MO.

10,000 horse will be consumed. Another line runs to Joplin, Carthage, Carterville, Galena and many smaller towns of the Joplin zinc mining district. More than 150,000 horse can be absorbed in cities, towns and mines of Southwest Missouri and Eastern Kansas.

"One hundred and thirty-eight miles of transmission line is required to deliver the current to the cities of Springfield and Joplin and to intermediate towns. The line from the dam to Springfield is 48 miles, 21 miles through a rough country, carried on steel towers, 500-foot span, the balance on white cedar poles. Conductors are of No. 00 copper strand, transmission voltage 66,000 volts, pin-type insulators. The transmission line from Joplin to Springfield, 90 miles, is of white cedar poles, 150-foot span. Size of conductors is No. 0 solid copper wire.

"But there is yet another market, which in time will absorb all the surplus power that can be generated under the most favorable circumstances. This is the local market yet to be developed under the incentive of cheap electric power, in the manufacture of cotton, hardwoods and minerals abounding in the White River country. More than 100,000 bales of cotton are annually grown in this region, although the entire country is practically yet a vast primeval hardwood forest, underlaid with rich deposits of zinc, lead, iron and kindred ores. The country is fertile and highly liveable. Fruit and grape growing is proving immensely profitable. A chain of wonderful, clear and scenic inland lakes not only will attract thousands of tourists and pleasure-seekers, but will afford a system of water-



BACKWATER FROM DAM, LAKE TANEYCOMO, OPPOSITE HOLLISTER, MO.

nets, bringing in fresh and salt water fish for the markets. Magnificent forest trees of many varieties border the bay.

The Government has donated to Biloxi a park on the bay. A walk through the woods will show great opportunities awaiting settlers. Here are hickory groves that could be budded with the pecan, making a good investment. The coast is the native home of the pecan, and there is plenty of material here to work on.

A soft breeze from the Gulf continually passes over, making the climate delightful, summer and winter, as thousands of guests to Biloxi and Gulfport testify. These two cities are progressive and seem

Three-year-old trees are very large and have an abundant crop of figs this year.

The blackberry and dewberry have pollenized and make a splendid berry for canning, as one crop follows another crop for an indefinite time.

"Success comes in can's," Elizabeth Towne says, and so the ladies of our neighboring town, Handsboro, are demonstrating their success by organizing a canning club, and have the distinction of being the first Woman's Canning Club in the State. These ladies tell us how to can and find a market for our produce.

On the cut-over lands a few truckers with an established local trade dispose of their vegetables with profit; others, scat-

with artesian water or water from the bay coming in with the tide.

Our Congressmen are working to have the Government deepen the channel of Back Bay for a harbor. The State needs this. It is also a most excellent place, geographically, for a coaling station. The islands lying out in the Gulf of Mexico are a protection to the entire coast when tropical storms are raging; still, the force of the wind is sufficient to upset a yacht in the sound, and for this reason they are usually kept in the bay, where they are scarcely moved from their anchorage in the most unruffled state of the water.

A physical examination is contemplated being made by a large company to determine if oil exists here.

Mrs. J. W. ATKINSON.

Another Hydro-Electric Plant.

The Piedmont Railway & Electric Co., Burlington, N. C., has purchased the machinery for its hydro-electric plant, to be constructed between Burlington and Graham, for transmitting electricity to operate lighting and railway systems at Burlington, Graham, Haw River, Mebane, Swepsonville, Elon College and probably other cities. This plant will at first develop 3000 horse-power, but is designed for an ultimate development of 6000 horse-power. Its construction will include a 10,000,000-gallon reservoir.

The St. Louis & San Francisco Railroad Co. has applied to the Public Service Commission of Missouri for authority to issue \$700,000 of 5 per cent. first mortgage bonds of its New Orleans, Texas & Mexico division.

To Complete Its Plant at Fairfield.

RESUMPTION OF WORK ON THE ROD AND WIRE MILL
OF THE AMERICAN STEEL & WIRE COMPANY
IN THE BIRMINGHAM DISTRICT.

New York, May 22, 1913.

Manufacturers Record,

Baltimore, Md.:

The American Steel & Wire Co. is proceeding with the construction of its wire plant at Birmingham, and will complete and put it into operation as soon as possible.

J. A. FARRELL.

This special telegram to the MANUFACTURERS RECORD from President Farrell of the United States Steel Corporation summarized the determination last week of the finance committee of the corporation to resume work upon the plant of its subsidiary company, which has been suspended for more than a year. The reception of the news of this determination was followed by a marked feeling of buoyancy in the Birmingham district, reflected in the following special correspondence from Birmingham to the MANUFACTURERS RECORD:

"Quite the most interesting development in local circles for some months past is the announcement that has just been made relative to the completion and operation of the plant at Fairfield, Ala., that was begun by the American Steel & Wire Co. during the year 1910. All reports from New York in this connection have been formally confirmed by Chairman Elbert H. Gary of the United States Steel Corporation, and the necessary force is now actually being assembled for the installation of the machinery that has been in storage since work was suspended early in last year. For the installation of the machinery, the completion of plant buildings and the erection of houses for the employes some four to six months will be required. However, it is practically assured that the plant will be operated to capacity just so soon as practicable, and the effect of such knowledge is very pronounced in all of the several local manufacturing lines. The operation of the plant will be very significant so far as the local labor situation is concerned, in that employment for a larger force of skilled men, who will make their homes in this district, will be afforded, while the benefit directly to other manufacturers and operators, through raw-material requirements, repairs, adjustment of freight rates and the like, can hardly be estimated. It is understood, of course, that the bulk of the raw material required at the plant will be furnished from the operations of the Tennessee Coal, Iron & Railroad Co.; at the same time the material to be consumed is now going into other markets and in many cases competing with other local products, and the increased consumption would, of course, mean the widening of the territory for the independent concerns. In this the coal and coke operators are referred to particularly, although it is quite possible that the operation of the wire and rod mill will mean the changing of furnace operations at Bessemer, Ala., from foundry iron to basic, and thereby take from the market a very significant tonnage which could easily be furnished by the other iron producers. With the operation of the plant the competition for finished material in local or surrounding territory will be keener, yet the products of the American Steel & Wire Co. and the present local products are entirely different to quite an

appreciable extent, and it is hardly probable that the operations at the Alabama City mill or at the smaller mills within this city will be affected by the addition of a large tonnage of finished iron and steel products. The freight rates that will be required for the forwarding of the product of the new mill is an item that

should prove very important to the Birmingham district as a whole, and with the establishment of such rates as will be necessary, additional finishing mills, though probably with a smaller capacity, will no doubt be located in the district."

Announcement of the determination of the American Steel & Wire Co. to establish the plant was made in November, 1909, and work upon it was pushed rapidly, even to the point of installing some of the machinery, until the spring of 1911. Coincidentally a residence and business town was laid out on a tract of land adjoining Ensley, the site of the great steel plant of the Tennessee Coal, Iron & Railroad Co. The cost of the rod and wire mill is about \$3,500,000.

American Iron and Steel Institute

FEATURES OF THE FOURTH GENERAL MEETING LAST
WEEK IN NEW YORK.

In opening last Friday in New York the fourth general meeting of the American Iron and Steel Institute, with about 500 members present, Judge Elbert H. Gary, the president of the Institute, reviewed conditions in this country in a speech which was reported in the New York Times as follows:

"There are pending at the present time in various places questions of legislation which are more or less important and which may result in temporary injury to our business. I regard as the most dangerous at the present time the disposition of legislative bodies to pass laws which are calculated to produce classes. Class legislation is the most dangerous feature of the present efforts of some of the lawmakers of this country.

"I think, for instance, the proposition to assess the incomes of men who have incomes of more than \$4000 and exempting the incomes of those who receive less is one of the worst things that has ever happened in this country, because it immediately arrays 97 per cent. of the people against 3 per cent. of the people.

"On the other hand, we have at the present time before us the possibility, and, I think, the probability, of action by one department of the Government, the Interstate Commerce Commission, which is calculated to produce very good results. I believe the railroad companies will secure the right to advance their rates 5 per cent. I cannot help feeling that the railroads are justly entitled to an increase in rates. And when we find a thing is fair and just it seems to me we ought to advocate it.

"The fundamental conditions of this country, to my mind, were never better. It is the richest country in the world. The prospects for crops for the coming year were never better than they are now, and there is every reason why, if the country were allowed to prosper, it should advance further and faster, day by day, than ever before."

The formal program of the morning and afternoon sessions included addresses and discussions as follows:

"Gas Engines," by Heinrich J. Freyn of the Allis-Chalmers Manufacturing Co., Milwaukee, Wis., with discussion by Arthur West of the Bethlehem Steel Co., South Bethlehem, Pa.; Richard H. Rice of the General Electric Co., New York, and Heinrich J. Freyn.

"Ore Reserves in the Eastern Mesaba

Range," by George A. St. Clair, Duluth, Minn., with discussion by Sheldon Norton of Witherbee, Sherman & Co., Mineville, N. Y.

"Importance of First Aid to the Injured," by Wm. O'Neill Sherman, chief surgeon Carnegie Steel Co., Pittsburgh, Pa., with discussion by John B. Lowman, chief surgeon Cambria Steel Co., Johnstown, Pa.

"What Causes Fatigue?" by Thomas Darlington, secretary welfare committee, American Iron & Steel Institute, New York.

"By-product Coke Ovens," by Carl A. Meissner, chairman coke committee, United States Steel Corporation, New York, with discussion by William H. Blauvelt, consulting engineer Semet-Solvay Company, Syracuse, N. Y.; Christopher G. Atwater of the American Coal Products Co., New York; Oscar Simmersbach (by correspondence), professor Konigliche Technische Hochschule, Breslau, Germany, and Carl A. Meissner.

"Claims and Their Adjustment," by George P. Early, special agent American Sheet & Tinplate Co., Pittsburgh, Pa.

"The Practical Value of the Microscope in the Iron and Steel Industry," by Albert Sauveur, professor metallurgy and metallography, Harvard University, Cambridge, Mass., with discussion by Bradley Stoughton, consulting engineer, New York; John S. Unger, manager research laboratory, Carnegie Steel Co., Duquesne, Pa., and George W. Sargent, chief metallurgist Crucible Steel Co. of America, Pittsburgh, Pa.

"Transportation on the Great Lakes," by Harry Goulby, president Pittsburgh Steamship Co., Cleveland, O., with discussion by Antonio C. Pessano, president Great Lakes Engineering Works, Detroit, Mich.

At the annual dinner in the evening the formal paper was on "In What Direction Is Technical Education Tending?" by Frederick Crabtree, professor Carnegie Institute of Technology, Pittsburgh, Pa., with discussion by John McLeod, assistant to the president, Carnegie Steel Co., Pittsburgh, Pa., and Henry M. Howe, professor of metallurgy, Columbia University, New York. Impromptu addresses, in response to call of Judge Gary, were made by Charles M. Schwab, president Bethlehem Steel Co.; James A. Farrell, president United States Steel Corporation; Joseph G. Butler, Jr., and James H. Hoyt.

The Birmingham Iron Market.

[Special Cor. Manufacturers Record.]

Birmingham, Ala., May 26.

In the pig-iron market the business that came forward in the past week is quite satisfactory, especially in view of the fact that further decline in prices was not suffered. An aggregate of some 10,000 tons of foundry grades, all for early requirement, was sold in the week, and probably that much additional tonnage is pending in definite form for closing promptly. The sales reports indicate the maintenance of a \$12 per ton Birmingham basis for the tonnage sold, and there is certainly no more disposition to name lower figures than at the time of last report. For special analysis iron \$13 per ton at Birmingham was paid in the week, while gray forge sold at \$10.75 per ton. The former price is about the usual differential paid for the grade involved, and the later figure no doubt resulted from certain stipulation as to delivery, but an attractive tonnage of No. 2 foundry was sold at \$12 per ton Birmingham, with only a differential of 25 cents per ton made on that price for the small quantities of Nos. 3 and 4 foundry that were engaged. The carload requirements, which were for spot shipment in the main, aggregated some 3500 tons, which is considered a very encouraging showing in view of the several conditions existing. The weeks' forwardings contained a round tonnage of foundry grades for export, and New York advices have accredited the Tennessee Coal, Iron & Railroad Co. with the sale of 25,000 of No. 2 foundry for export, a significant portion of which is for Brazil. It is probable that the forwarding through New Orleans of some 3000 tons, mentioned in last report, applied against the above, and that the shipments now being made to Brazil, Japan and to Italy are included. The furnace make is still practically the same as early in the month, and, aside from the changes to be made as recently mentioned, will not be reduced prior to July 1. About July 1 the raw material contracts of certain smaller producers will expire, and it is understood that the operations at such plants will be governed by the terms offered for renewals. While the market is still quiet and inactive comparatively, the general tone is firmer, and we quote prices below, to cover deliveries through the remainder of the year, as firmer than at the time of last report. The quotations are per gross ton f. o. b. cars at Birmingham as follows: No. 1 foundry, \$12.50 to \$13; No. 2 foundry, \$12 to \$12.50; No. 3 foundry, \$11.75 to \$12.25; No. 4 foundry, \$11.25 to \$11.75; gray forge, \$11 to \$11.50; mottled, \$10.75 to \$11.25; standard basic, \$12 to \$12.50; off basic, \$11.75 to \$12.25; standard warm blast charcoal iron, \$24.50 to \$25.

Prices being asked for cast-iron water and gas pipe have not been revised, but it is quite probable that offers of round tonnage would result in substantial shading. A fair tonnage of small orders was placed within the week, but order books, in certain cases, are clean of special sizes, and as a result the output has been curtailed to some extent. Cast-iron soil pipe continue to move in good volume, but prices are not so firm as the movement would indicate. The production of this class pipe is to be increased by the operations of the Southern Pipe & Foundry Co. at North Birmingham within the next 10 days. The plant of this company was entirely destroyed by fire some months ago, and operations are being resumed in a temporary building. However, the

management hope to produce a normal daily tonnage within a few weeks.

The demand for old material is very desultory, but prices are being fairly well maintained in view of the conditions. Dealers are not adding to stocks, although certain grades have been practically depleted both on dealers' yards and on the yards of consumers. Nominal asking prices, which are subject to shading with any change in local conditions, are about as follows per gross ton f. o. b. cars here, viz.:

Old iron axles (light), \$15 to \$15.50.
Old steel axles (light), \$15 to \$15.50.
Old iron rails, \$14 to \$14.50.
No. 1 railroad wrought, \$12.25 to \$12.75.

No. 2 railroad wrought, \$10.75 to \$11.25.

No. 2 country wrought, \$9.25 to \$9.75.
No. 1 machinery cast, \$10.25 to \$10.75.
No. 1 steel scrap, \$11 to \$11.25.
Tram car wheels, \$11 to \$11.50.
Standard car wheels, \$12 to \$12.50.
Light cast and stove plate, \$8.50 to \$9.

No large coal contracts have been closed since last report, but operators are considering the requirements of several large cotton-oil mills in Mississippi, as well as two large railroad requirements. The output from the several operations is being applied directly to contracts already on order books, and the aggregate tonnage is but slightly under normal.

Both foundry and furnace coke are in strong demand, with premiums being asked for certain grades of the former.

TEXAS INTERCOASTAL CANAL.

Beginning of Regular Freight Service Through the Waterway.

Commercial Association,
Galveston, Tex., May 22.

Editor Manufacturers Record:

The schooner Myrtle, Captain A. S. Barrow, cleared May 16 for Matagorda, inaugurating the first regular freight service through the new intercoastal waterway canal. The Myrtle was loaded to capacity (35 tons) with oil, sand, brick and groceries for delivery to consignees at Freeport, Velasco, Hinkel's Ferry and Matagorda.

The Myrtle will run twice weekly, Galveston to Matagorda and return. Present indications point to an abundance of business for this schooner, as merchants are quick to take advantage of the saving through water transportation to the points mentioned. What has been accomplished in the case of the Myrtle is indicative of what will occur in connection with all points along the canal from Central Louisiana to the Rio Grande. The canal service affords a double saving in time and money over that required by rail transportation.

The saving in time is obvious from the following facts: Freight by rail from Galveston to Matagorda, if handled by but one line, must go to Sealy, 100 miles inland, then back a similar distance to Matagorda, consuming not less than 48 hours at the best. The Myrtle placed her cargo in Matagorda in 14 hours. In the case of Freeport and Velasco it is necessary for three railroads to participate in the haul. Allowing time for switching, inspection and other necessities of transfer work, the trip would consume not less than three days. The Myrtle set down her freight in Velasco and Freeport within eight hours after leaving Galveston. Hinkel's Ferry is not a railroad station, but is represented on the rails by Brazoria. No less than two days would be consumed in the haul to Brazoria by rail, and to this is added a nine-mile wagon haul to Hinkel's Ferry. The Myr-

tle placed freight in the possession of the consignees at Hinkel's Ferry within nine hours. Added to the time consumed in the haul by rail is the danger of having a car refused at transfer points by inspectors because of the existence of improper repairs, excessive damage, etc. All this is eliminated by the canal service.

The following table shows the saving in rates to these points:

| Commodity. | Rate by rail, per hundred. | Rate by water, per hundred. | Saving, per hundred. |
|----------------------|----------------------------|-----------------------------|----------------------|
| Oil..... | \$0.44 | \$0.25 | \$0.19 |
| Coal..... | .39 | .25 | .14 |
| Groceries..... | .54 | .25 | .29 |
| Merchandise..... | .54 | .25 | .29 |
| Cement and sand..... | .39 | .25 | .14 |
| Brick..... | .39 | .25 | .14 |

These quotations are based on a haul to Matagorda. Between Galveston and points nearer than Matagorda a greater variance in rates and a greater saving is shown.

The cargo of the Myrtle is not shipped on a venture or with the view of a possible market. Everything is shipped to a consignee who has purchased the goods. The Myrtle will bring cargo to Galveston on each return trip. The first cargo into Galveston through the canal will consist of 2000 bushels of new Irish potatoes for market at Galveston.

The canal will be formally opened June 12-13, when a grand celebration will be held in Galveston. A parade of 800 motor boats and launches, speeches by the Governor and other officials, banquets and other features are on the program. The benefits of the canal to the coast country of Texas and Louisiana will doubtless surpass the anticipations of those directly connected with the construction of the waterway.

WARREN W. PETERS.

Freeport, Tex., May 24.

Editor Manufacturers Record:

Before June 1 the few hundred feet of construction work that remains to be done to complete all but 58 miles of the Texas Intercoastal Canal system will have been finished and open for navigation. This great inland waterway will provide a direct water route of over 200 miles from Galveston to Corpus Christi and serve to make available, through branches made by navigable rivers, bays and bayous, avenues of transportation totaling approximately 600 miles.

It will tap an immensely rich agricultural territory whose development in the past has been retarded because of limited transportation facilities. The opening of the Intercoastal Canal will establish competitive water rates, the need of which is pressing.

Theoretically, this new groove of commerce should be productive of untold industrial and agricultural benefits. The practical side of the problem, now that the canal has been dug, narrows down to this very important factor for its solution: "Will the canal be used?" Will the predicted theoretical beneficial results to which the coast country of Texas is looking forward to with so much certainty follow?

Investigation points toward a wide use of this canal. If so, little doubt exists as to this waterway fulfilling the important development niche that those who have labored for it have predicted. Freeport is a concrete example and a fair indicator of what is to be done and what can be done.

Freeport, a new port city being developed at the mouth of the Brazos, and the junction point of two sections of the Intercoastal Canal, one running from the east from Galveston to Brazos and the other running west from the Freeport ship channel to Matagorda Bay, is preparing to take every possible commercial advan-

tage of this new groove of commerce.

They are figuring on developments at this point that will make Freeport a receiving and distributing point for this canal traffic, and are planning to care for Intercoastal Canal tonnage along those lines. The use of the canal which will be encouraged and assisted at this point will be that of moving through it goods and products from the farming country tributary to Freeport to this port as a shipping center, and from there moved overseas or by rail to Eastern and Northern markets. The operation to be reversed in distributing from this port articles, products and materials intended for consumption in the same tributary territory.

It is believed by the commercial interests at Freeport that this inland waterway, if it is used, will be a great factor in developing the Gulf coast country, and to that end the commercial spirit manifest at this port is to provide all possible facilities for the handling of future canal traffic.

One of the important facilities already enjoyed, and one which will be of great value to the towns and cities west of Freeport along the route of the canal, is the operation between Freeport and New York of a freight service by the Seaboard & Gulf Steamship Co., a Texas water transportation line. This company uses a modern pier and warehouse owned by the Brazos Warehouse Co. on the Freeport ship channel. This pier is 450 feet long and 100 feet wide. The warehouse is 400x80 feet, and well equipped to handle cargoes for two steamships.

An important industry established at Freeport, which will undoubtedly prove in the future not only a convenience for canal navigators, but which will probably also in time add to the canal tonnage, is the location on the ship channel of the Freeport & Mexican Fuel Oil Co.'s tank storage. This company is operating in the Tampico district, and has located its Texas distributing point at Freeport. The company has already built their initial tank, with a capacity of 55,000 barrels, at this point. Beside it the Freeport Sulphur Co. has another tank of similar capacity used to store fuel oil used at the sulphur mine at Bryan Heights in mining the sulphur.

The Intercoastal Canal runs also within a short distance of the sulphur mine at Bryan Heights. Whether or not it will be used in connection with the railroad being built between the mine and Freeport for handling the vast tonnage of sulphur that is destined to be moved out of this port in the coming years has not been officially announced, but it provides a splendid avenue of transportation for this produce in case the syndicate owning the mines see fit to avail themselves of it to float some of the sulphur to shipside.

A. W. DAVIS.

A \$1,500,000 COKING PLANT.

Syndicate to Develop Coal Land and Build Ovens of 275,000 Tons Annual Capacity.

The Cumberland Mountain Land Syndicate, C. H. Smith, engineer in charge, Chattanooga, is preparing to begin the development of 21,600 acres of coal land, underlaid with the Sewanee seam, at Whitwell, Tenn., between the Little Sequatchie River and the east bluff of Cumberland Mountain. It is proposed to build a modern town and install the latest machinery for a large annual output, the construction involved to be of steel and brick, fireproof. The equipment will include ventilating fans, mining machinery, haulage locomotives, pumps, etc., all driven by electric power transmitted from a central power station which the com-

pany will build. At Chattanooga the syndicate intends to build a by-product coking plant, comprising 60 ovens, at a cost of approximately \$1,500,000 for an annual capacity of about 275,000 tons of coke. It is claimed engineers have estimated that the Cumberland property contains from 80,000,000 to 100,000,000 tons of recoverable coking coal. Mr. Smith was until recently vice-president and general manager of the Durham Coal & Iron Co., and has been referred to as planning another coal development and a big coke plant. The new development will be connected with Chattanooga by the construction of an 18-mile spur railway from the Tennessee River up the Little Sequatchie River to the mines. Coal can also be shipped to Chattanooga from the river terminal by barge after the Tennessee River lock and dam is completed.

Messrs. Hallgarten & Co., Alvin W. Krech and Winslow S. Pierce of New York, B. F. Bush of St. Louis and C. E. James of Chattanooga are understood to be interested in these developments.

LAWTON'S WATER RESOURCES.

Interesting the Government in Irrigation Possibilities.

[Special Cor. Manufacturers Record.]

Lawton, Okla., May 23.

The proximity of Lawton to the United States Military Reserve, on which are located a Government Indian school and the Fort Sill military site, has been an advantage to the city and bids fair to be even more so when the Federal plan of increasing the number of troops stationed at Fort Sill shall have been carried out. It is stated that the Government contemplates increasing the importance of this post by having a division stationed on the reservation. Such a plan would necessitate the construction of additional barracks and would add to the business of Lawton by reason of the individual purchases of officers and men, to say nothing of such supplies as might be purchased locally.

By reason of the great dam across Medicine Creek, northwest of the city, Lawton has conserved the water from the springs of the Wichita Mountains and incorporating a watershed of approximately 100 square miles. The dam is 50 feet high and 300 feet in length, thus impounding 5,000,000,000 gallons of water in reservoir of 1082 acres. The base of the dam is 155½ feet, about the level of Lawton, and thus the reservoir furnishes a thoroughly adequate pressure for fire protection, as well as an inexhaustible supply of water for domestic and industrial purposes.

The Lawton Chamber of Commerce has interested the Federal reclamation service in the city's natural reservoir with a view to using the water for an extensive irrigation system. An engineer who has made surveys recommends that the first unit for the irrigation plant be constructed. The Government, however, will conduct further investigations, particularly with reference to the size of the watershed, before ordering any construction work. The first unit would make possible the irrigation of 5000 acres at slight expense. The Chamber of Commerce hopes, however, eventually to secure Government co-operation in the larger plan to secure a reservoir of 30,000,000,000 gallons capacity. To accomplish this the dam would be raised to a height of 90 feet, and approximately 3300 acres would be the area of the reservoir. The additional land which would be covered belongs to the Wichita Forest and Game Preserve, and is under the control of the Department of Agriculture.

Mount Airy Granite.

By JOSEPH HYDE PRATT, State Geologist of North Carolina.

At Mt. Airy, Surry county, North Carolina, is one of the largest granite quarries in the South, and it offers possibilities of becoming the largest quarry in the country. Openings have been made in a 40-acre tract of nearly continuously exposed granite over the slope and top of a long hill which rises to an elevation of about 125 feet above the level of the valley, in which a railroad track is laid and operated between the quarries and Mt. Airy, where it connects with the Southern Railway. The distance between the extreme openings on this ridge in an east and west direction is approximately 3000 feet; in width, openings have been made for about 800 feet. The deepest workings have a depth of about 30 feet, from which four or five raises of the rock of different thicknesses have been removed. The average angle on slope of the exposed granite from the base to the top of the hill is 12 degrees, and this is readily taken advantage of in facilitating easy quarrying. Veins and dikes, usually found in most granites, are nowhere vis-

The tamping was then cleaned out of the hole and it was recharged in the same manner, this time, however, using about a handful of powder. Recharging of the hole was continued with small charges of powder until a small seam had been started at the bottom of the hole extending parallel with the surface. This was ascertained by using a small steel rod bent at the lower end and sharpened to a point by passing it up and down the hole until the crack was located. After the crack was once started, the use of light charges of powder was continued, the charges being gradually increased as a seam was found to extend in all directions from the lift hole until the crevices extended a distance of 75 feet or more from the hole. The use of explosives was then discontinued and a water-tight connection was made to the hole by cutting off a piece of iron pipe of suitable length, which was fastened in the hole with melted sulphur. To this connection was attached an ordinary hand-force pump, with which water was forced into the



STRIPPING AND WORKING OFF SURFACE SHELL AT MT. AIRY GRANITE CO.'S QUARRIES.

ible in the Mt. Airy quarries. The rock is very light gray, nearly white, biotite granite of medium texture, containing no visible injurious minerals. It is very uniform in color, and the limit of dimension of stone is the capacity of a railroad car. To illustrate the size of blocks that can be obtained, there was taken out of the quarry and sent to the Jamestown Exposition a block of granite weighing 57 tons. It was nearly rectangular in shape, and was not trimmed in any way, but shipped exactly as quarried. The equipment in the quarries consists of nine cableways with a maximum capacity of eight tons each; two inclines of 60 tons capacity each, and a complete outfit of channelers, plug drills and other equipment.

It was at the Mt. Airy quarries that the method of quarrying by means of compressed air was developed. Formerly a quarry was opened by blasting with powder. This was superseded by the method of quarrying by water, which was used until 1903. This method consisted of drilling a hole about three inches in diameter perpendicular to the surface to the depth of the thickness of the stone desired, usually five to seven feet, and then firing a succession of light blasts, using in the first charge about a handful of blasting powder, beginning the operation with about one-quarter of a pound of dynamite in the bottom of the hole. This small percentage of dynamite pulverized the stone slightly at the bottom of the hole and formed a small chamber.

crevices already formed by the explosives. No difficulty was found in extending the crevices by continuous pumping of the water until finally it covered an area frequently as much as two acres in extent and found vent by tearing out to the thin edges on the side of the hole. This process was only used in the warmest weather, when the surface of the rock was naturally somewhat expanded and more easily raised. It was never tried in cold weather, and it is doubtful whether good results could be obtained in such weather.

Although the North Carolina Granite Corporation, operating the Mt. Airy quarries, found that the substitution of water under pressure for powder after the cleavage had extended some little distance from the drill hole was an improvement, they were not satisfied with the results and began experimenting with compressed air, with the result that they found the compressed air was an improvement over water as the water was over powder.

In the center of the sheet or area to be lifted a drill hole two to three inches in diameter is sunk six to eight feet in depth, depending on the greatest thickness of stone required, and the operation is continued by the discharge of successive small amounts of powder similarly as described under the method of quarrying by using water until the crevice extends a distance of 75 feet or more from the hole in all directions. A pipe is then cemented into the hole and connected by means of a globe valve to an air pipe line from an

air compressor. Compressed air at 70 to 80 pounds pressure is gradually admitted and the cleavage rapidly extended until it comes out upon the hillside in a thin edge. A sheet of several acres in extent may be raised in this manner, affording a bed plane approximately horizontal, to which the quarrymen can work, thus securing stone of any required thickness. The first time compressed air was used a pressure of 80 pounds was admitted into the vacuity which had previously been extended to a distance of 100 feet from the lift hole. The power of the air, however, was too great for the easily splitting stone, and the cleavage turned abruptly to the surface. In the next hole, however, the compressed air was admitted very gradually and the stone could soon be heard cracking in all directions, and in about half an hour the cleavage came to the surface of the hillside as a thin edge some 225 feet from the lift hole. To extend the cleavage by means of powder for 100 feet would require from 6 to 12 days, and with water from 3 to 5 hours, while with compressed air the larger area was split in half an hour. This method is still in use, and giving splendid satisfaction.

By this and other economical methods of operation the North Carolina Granite Corporation is able to produce granite for building and paving purposes at a price comparing favorably with any quarry in the country.

There are two crushing plants, one having a capacity of about 200 tons per day and the other 500 to 1000 tons per day, depending upon the size to which the product is crushed. This latter plant was installed about a year ago, and is equipped with boiler (capacity 300 horse-power); Hamilton Corliss engine (capacity 250 horse-power); a Sullivan two-stage air compressor of 1000 feet capacity; a No. 7½ and No. 5 Gates crusher, and two sets of Sturtevant balanced crushing rolls, with the necessary screens, elevators, bins, etc. Stone is supplied to this plant by small cars from the quarries, which dump into the hopper automatically. The main finishing plant is equipped with boilers of 420 horse-power; a Sullivan cross-compound Corliss air compressor of 2000 feet capacity; a 100-kilowatt generator direct connected to an Ideal double-cylinder engine; two 20-ton Pawling and Harnischfeger electric cranes, 50-foot span, each equipped with five-ton auxiliary hoist; one 14-foot column lathe, and one Jumbo polishing mill, with about 15 surfacing machines. For handling the stones from the quarries to the finishing plant a regular three-driver shifting engine is used.

For Woodworking Plant.

R. D. Moore, general freight agent of the Mississippi Central Railroad Co. at Hattiesburg, Miss., is seeking to induce woodworking establishments to locate there for the manufacture of various wooden articles, such as baskets, boxes, curtain poles, spokes, handles, bungs and anything of value, thus utilizing this enormous waste, which could be profitable to someone. In letters to them he says:

"The line of this road penetrates a section with an abundance of timber, including both pine and hardwoods, such as hickory, oak, poplar, gum, etc. Sawmills now operate in this timber, creating a great deal of waste material, aside from the available forest cut.

"All conditions seem to me as very satisfactory; labor is cheap and plentiful, taxes are low, raw material is handy and at very small cost, and expenses as a whole are comparatively nothing. Markets are readily available, and we stand ready to assist in every way possible."

GOOD ROADS

WEEK'S HIGHWAY RECORD.

Progress in Southern Road and Street Improvement.

[Further details of highway undertakings and bond issues mentioned below are given under the headings Construction Department and New Securities, published elsewhere in this issue.]

Bonds Voted.

Baton Rouge, La.—Third Ward, East Baton Rouge parish, voted \$68,000 bonds to construct gravel roads.

Nebo, N. C.—Nebo township of McDowell county has, it is reported, voted \$10,000 bonds for road construction.

Bonds to Be Voted.

Edinburgh, Tex.—Hidalgo county votes June 18 on \$200,000 bonds for road construction.

Farmville, N. C.—Farmville township of Pitt county votes July 29 on \$40,000 bonds for road construction.

Jonesville, Va.—Rocky Station and Rose Hill districts of Lee county vote June 24 on \$60,000 and \$16,000 bonds, respectively, for road improvements.

Laurel, Miss.—Beat 2 of Jones county votes June 19 on \$50,000 bonds for road construction.

Ripley, Miss.—Tippah county votes June 19 on \$20,000 bonds for road improvements.

Tyler, Tex.—Smith county votes July 8 on \$300,000 bonds for road improvements.

Contracts Awarded.

Baltimore, Md.—City awarded contracts for 30,750 square yards of street paving.

Baltimore, Md.—City awarded contracts at \$52,121.20 for street paving.

Corpus Christi, Tex.—City awarded contract for street paving; estimated cost \$600,000.

Gastonia, N. C.—City awarded contract to construct 38,000 square yards concrete sidewalks.

Knoxville, Tenn.—Knox County Road Commission awarded contract at \$3000 for surfacing and macadamizing Millertown road.

Montgomery, Ala.—Montgomery county awarded contract to grade and gravel seven miles of Ramer-Grady road.

Webster Grove, Mo.—City awarded contract for 3670 square yards Dolarway paving.

Contracts to Be Awarded.

Anniston, Ala.—Calhoun county will grade, drain and surface with macadam about 1½ miles of road; expenditure \$4000.

Baltimore, Md.—City receives bids until June 4 to grade, curb and pave 3200 square yards bituminous concrete and 2800 square yards vitrified block.

Baton Rouge, La.—Board of State Engineers will recrown and gravel 14 miles of road.

Birmingham, Ala.—Jefferson county receives bids until June 27 for road improvements; expenditure \$4000.

Cullowhee, N. C.—Cullowhee township of Jackson county has \$20,000 bond issue available for road construction.

Gadsden, Ala.—City will pave Walnut street; cost \$33,312.

Georgiana, Ala.—Butler county will grade and surface with sand-clay a portion of Milner Mill road; expend \$10,000.

Hayneville, Ala.—Lowndes county receives bids until June 16 to grade about seven miles of road; cost \$8000.

Jasper, Ala.—Walker county will improve road to be county's portion of Birmingham-Jasper highway; estimated cost \$20,000.

Linden, Ala.—Marengo county receives bids until June 24 to grade, drain and

surface about four miles road; expenditure \$7000.

Montgomery, Ala.—Montgomery County Board of Revenue invites bids for grading and graveling 10 miles of road.

Parkersburg, W. Va.—City has \$200,000 available for street and sewerage improvement.

Pilot Point, Tex.—City will construct street paving; cost \$12,000.

Rockford, Ala.—Coosa county receives bids until June 4 to grade, drain and surface with topsoil portion of Kellyton and Rockford road; expenditure \$4000.

Sarasota, Fla.—City will pave streets with brick; \$15,000 bond issue authorized.

Shreveport, La.—Board of State Engineers will construct gravel highway, distance of 5.8 miles.

Tampa, Fla.—City will place 18,330 yards brick paving, including grading and curbing.

Wharton, Tex.—Wharton county will construct six or seven miles of dirt road, open and grade same between Bouldings and Lane City.

Webster, N. C.—Sylva township will construct roads; \$50,000 available.

Chattanooga to Louisville.

Mr. C. E. James of Chattanooga, Tenn., one of the foremost men in the material development of that city and its vicinity, writes to the MANUFACTURERS RECORD:

"I hope within a few years that the new macadam pike road will be completed through from Chattanooga to Louisville, and it will be done if Louisville will do its part. If you will draw a straight line from Chattanooga by Crossville, Tenn., to Louisville, you will see what a short line this will be, compared to any other that can be built. Besides that, it will cross the Cumberland Mountain plateau for about 100 miles and will be the finest scenic road in the world. From Crossville, Tenn., which is on the Tennessee Central road, this new Louisville pike will cross the State highway being built from Bristol west to Nashville, Tenn. From Crossville, automobiles could go west to Nashville, or go east by Knoxville and Bristol to Baltimore and New York. If you will take a Tennessee and Kentucky map you will see what this system of pike roads will do for the city of Louisville and Chattanooga district, as well as the new short line from Chattanooga to Atlanta and Florida. The new pike road from Chattanooga to Atlanta will be practically completed this fall. The new State highway from Bristol via Crossville to Nashville will be nearly completed this fall."

Kenansville Wants a Railroad.

L. A. Beasley, Kenansville, N. C., says it is desired to secure the construction of a railroad from Warsaw, N. C., on the Atlantic Coast Line, into Kenansville, eight miles, through level country. There has not been any company organized for the purpose, and the \$10,000 of bonds recently voted in Kenansville township to aid in the construction of the desired line is in the nature of a bonus and the money can be given under a contract of the County Commissioners of Duplin county, of which Kenansville is the county-seat, to any railroad company to build and operate the road. The railroad need not be built from Warsaw, but from a connection with any standard-gauge line now in North Carolina. Other inducements, including free rights of way, will be offered. The act of Legislature under which the bond issue was voted on May 17 permits any other townships in Duplin county to vote similarly and up to the amount of \$15,000 each. It is hoped by this method to obtain needed transportation facilities.

RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

B. & O. TO BUILD COAL ROAD.

Another Great Kentucky Development to Follow Construction on Beaver Creek.

The Baltimore & Ohio Railroad Co. proposes to construct another coal railroad in Kentucky. It has acquired the charter rights of the Long Fork Railroad Co., which owns a location on the left fork of Beaver Creek, a stream about 10 miles south of Prestonsburg, Ky., and the railroad, when completed, will connect with the Chesapeake & Ohio Railway, as does the Sandy Valley & Elkhorn Railroad, which the Baltimore & Ohio constructed a year or so ago to reach the Kentucky fields of the Consolidation Coal Co.

There will be about 100,000 acres of coal lands owned by the Elkhorn Fuel Co., which will be developed as the result of the construction of this newly-projected line, as well as from 6000 to 8000 acres belonging to the Milwaukee Coal & Gas Co. C. W. Watson of Fairmont, W. Va., is president of the Elkhorn Fuel Co., and the vice-presidents include J. C. C. Mayo and other prominent coal men. J. W. M. Stewart is secretary, and headquarters are at Ashland, Ky.

It is stated by the railroad company that no date has yet been decided upon for starting construction of the proposed line.

A report from Louisa, Ky., says that such a road will be 28 miles long, beginning at the mouth of Beaver Creek, which will be followed six miles to the town of Alpharetta, and going thence up the left fork into a region where some remarkable coal developments are expected. The building of this line, it is further said, will give the Baltimore & Ohio two roads which will practically encircle one of the richest coal fields in Kentucky, and about 150,000 acres in extent. These two roads, it is estimated, will soon be handling a coal output of 5,000,000 tons annually.

The Baltimore & Ohio, according to reports from that territory, is expected to eventually build its own line from the Elkhorn fields to connect with its system, although an arrangement now prevails under which the Chesapeake & Ohio Railway takes the coal from Shelby, Ky., to the B. & O.'s main line.

A letter to the MANUFACTURERS RECORD says that a 20-mile line will also be constructed into the mines of the Elkhorn Fuel Co. from the Louisville & Nashville Railroad's Lexington & Eastern division by way of Rockhouse Creek, starting near Indian Bottom, in Letcher county, Kentucky. The railroad company is now making preliminary surveys, but no further work has been decided upon. Meanwhile the Chesapeake & Ohio Railway, as heretofore published, is building its branch up Beaver Creek valley, but on the side of the stream opposite to the B. & O.'s route.

\$1,000,000 FOR BRINSON LINE.

Improvements to Be Made and New Equipment Bought for Increasing Traffic.

The Brinson Railway Co., Savannah, Ga., informs the MANUFACTURERS RECORD that it has been determined to call a meeting of its stockholders about June 20 to act on plans for refinancing and reorganizing the road. About \$1,000,000 more are to be invested, and extensive

improvements are proposed. George M. Brinson of Springfield, Ga., will continue as president, but Richard Morgan, the superintendent, is to be made general manager. Heavier rails are to be laid and some unsatisfactory grades will be revised. It is also proposed to order immediately from 300 to 400 new freight cars, some of which will be required to fulfil a contract the road has with the Great Eastern Lumber Co. to convey timber to its mills and finished lumber from the mills to market. Passenger equipment is also to be bought, as well as some locomotives. It is said that the shops will probably be removed from Springfield to Savannah, and that they will be enlarged.

James Imbrie, 45 Broadway, New York, who is chairman of the directors of the railway; J. F. Wallace, civil engineer; R. K. Billings and R. B. Moffat, also of New York, recently made an inspection of the road to decide upon what should be done in the way of improvements. Mr. Imbrie is quoted as saying that there has been a heavy traffic recently on the road, and betterments are necessary to meet its requirements.

Last year the Brinson road began an extension of 12 miles from Waynesboro to St. Clair, Ga., which is now being completed, and it has been contemplated to extend from there to Thomson and Washington, Ga., about 50 miles more. At St. Clair connection is made with the Georgia & Florida Railway.

RECEIVERS FOR THE FRISCO.

Thomas H. West and President Winchell Named—Property Will Be Preserved.

The St. Louis & San Francisco Railroad has gone into the hands of receivers as the result of inability to meet notes amounting to \$2,250,000, which will mature on June 1. The receivers are Thomas H. West, chairman of directors of the St. Louis Trust Co., and President B. L. Winchell of the railroad company. They were appointed by Judge W. H. Sanborn of the United States District Court at St. Louis. The application for the receivership was made by Henry S. Priest, representing the directors of the line and bondholders, and also by the North American Company, James Campbell of St. Louis, president, which is one of the road's creditors.

The Chicago & Eastern Illinois Railroad, a subsidiary of the first-named company, has likewise gone into a receivership, Wm. J. Jackson, its vice-president, and Edwin W. Winters of New York being appointed by the United States Court at Chicago.

It has been expected for some days that the Frisco system would be unable to meet its financial obligations maturing in the near future, and consequently the receivership proceedings did not surprise financial or railroad circles. The June notes were only the immediate cause of the legal proceedings, for there were large interest payments to be met on July 1 and \$2,880,000 of underlying bonds which will mature on October 1 next. Flood damages and large increases in operating expenses have reduced the net earnings of the company seriously of late, and the prevailing tightness in the money market intensified the difficulty of obtaining funds to tide it over a trying period. It is also said that the obligations toward subsidiary properties were a heavy burden upon the parent road.

The Frisco system, of which B. F. Yoakum is chairman of the board, consists of more than 5000 miles of lines, and extends from Chicago to Brownsville, Tex., and from Birmingham, Ala., far out into Oklahoma and Texas. Among the cities

on its lines are St. Louis, Kansas City, Memphis, New Orleans, Fort Worth, Dallas, Houston, Oklahoma City, Muskogee, Tulsa and many other prominent places. The territory it traverses is practically all highly prosperous, and agriculture and industry are developing rapidly along its lines. As is indicated by the appointment of receivers in close touch with the affairs of the company, the receivership is of a friendly nature, and its efforts will doubtless be toward the preservation and maintenance of the system in its entirety and its speedy restoration to the stockholders.

The latest monthly statement of the St. Louis & San Francisco Railroad is for March. It shows gross earnings of \$3,678,459, an increase of more than \$200,000 over the same month of last year, while net earnings were \$1,234,989, an increase of about \$228,000. For the nine months from July 1, 1912, to March 31, 1913, the gross earnings were \$35,144,762, increase as compared with the same period of last year \$2,759,903; net earnings \$12,056,224, increase \$1,493,733. The total for all lines of the system for the same period was: Gross \$47,511,845, increase \$3,121,448; net \$15,107,628, increase \$1,233,914.

BEAUMONT TRACTION DEAL.

Stone & Webster Buy Property to Merge With Interurban to Port Arthur.

The purchase of the Beaumont (Tex.) Traction Co. by Stone & Webster of Boston has been announced to the Beaumont City Council. The company is to be merged with the Jefferson County Traction Co., which is constructing the interurban electric railway between Beaumont and Port Arthur, Tex. Some changes in the franchise of the Beaumont company are sought to make it correspond with the franchise of the Jefferson County Traction Co.

Thus Stone & Webster will now own the lighting plants and street railways at both Beaumont and Port Arthur and the interurban which will connect the two cities. C. W. Kellogg will be general manager and E. J. Emerson local manager.

The interurban railway will be about 20 miles long, and six miles of grading are said to be now complete on the most difficult part of the work. An office building and interurban station are to be erected at Beaumont at an estimated cost of about \$80,000.

\$20,000,000 FOR RAILROAD.

Midland Valley Proposes Bond Issues to Cover Contemplated Extensions.

A report from Oklahoma City says that the Midland Valley Railroad Co., which has a line 322 miles long from Fort Smith, Ark., to Wichita, Kans., via Muskogee and Tulsa, Okla., has filed two mortgages to secure bonds, one of them being for the amount of \$15,000,000 to the Girard Trust Co. of Philadelphia, and of this amount \$10,000,000 is for building contemplated extensions, one to Shreveport, La., and the other to Denver, Col. The other is for \$5,512,500 to the Fidelity Trust Co., also of Philadelphia, and the bonds under it are to take up outstanding issues. C. E. Ingersoll of Philadelphia is president of the road. It appears that the extension to Shreveport is projected from Hartford, Ark., to which point the road has a branch of 40 miles. No announcement has been made as to when construction may be expected to begin.

New Equipment, Rails, Etc.

Baltimore & Ohio Railroad has applied to the Maryland Public Service Commis-

sion for authority to issue \$11,112,000 of 4½ per cent. equipment trust certificates, and it is proposed to purchase 100 locomotives, 1822 steel gondola cars and 8 steel postal cars. The locomotives will consist of 60 Mikado type, 30 Pacific type and 10 Mallet type. It appears that there are about 2200 more freight cars and 100 passenger cars which will be under the equipment mortgage.

Pennsylvania Lines West have ordered 140 locomotives from the American Locomotive Co., New York.

Birmingham & Southeastern Railway is expected to order a locomotive and three passenger cars.

Central of Georgia Railway, says a report from Macon, has ordered 14 steel passenger cars and 500 steel underframe freight cars. The builders are not named.

Brinson Railway Co. will buy from 300 to 400 freight cars, some passenger cars and additional locomotives.

Atlanta, Birmingham & Atlantic Railway has ordered five locomotives from the Baldwin Locomotive Works, Philadelphia.

Kansas City Southern Railroad has ordered 7000 tons of Bessemer steel rails from the Illinois Steel Co., Chicago.

Seaboard Air Line is expected to soon place orders for 10 steel passenger cars, 70 feet long, and 5 steel dining cars, 72 feet long.

St. Elmo, Belle Helene & Louisiana Eastern Railroad, St. Elmo, La., has ordered a gasoline motor car from the Fairbanks-Morse Company of Chicago.

Santa Fe system has ordered 15,000 tons of rails from the Illinois Steel Co.

Louisville & Nashville Railroad is receiving deliveries on an order for 2500 of 55-ton steel coal cars for its Lexington & Eastern extension.

Missouri, Kansas & Texas Railway, says a market report, has ordered 175 tons of steel from the American Bridge Co., New York.

St. Louis Southwestern Railway has marketed \$400,000 of 5 per cent. equipment trust notes covering 40 locomotives, 200 coal cars and some passenger equipment recently purchased.

Rock Island Lines, says a report, have ordered three turntables from the Pennsylvania Steel Co., Steelton, Pa.

Hagerstown Railway, Hagerstown, Md., it is reported, has ordered seven double-truck cars from the G. C. Kuhlman Car Co., Collinwood, O.

Southern Railway is expected to soon purchase 1800 freight cars.

International & Great Northern Railroad has ordered 10 oil-burning locomotives from the American Locomotive Co., New York.

Chesapeake Western Railway has bought a locomotive from the Davenport Locomotive Works.

Norfolk & Western Railway is expected to order 2800 tons of bridge steel.

Missouri, Kansas & Texas Railway has sold in New York \$1,900,000 of 5 per cent. equipment trust notes secured by 40 Mikado freight locomotives, 1000 steel underframe box cars of 30 tons capacity, 10 baggage cars 70 feet long, 5 chair cars 70 feet 6 inches long, 5 combination passenger and mail cars 70 feet long, 5 postal cars 60 feet long, 3 combination baggage and mail cars 70 feet long and 3 dining cars, this passenger equipment being of all-steel construction. The company has also bought 500 box cars out of other funds.

Central of Alabama Railway has ordered 700 tons of structural steel from the American Bridge Co.

Rock Island has ordered 400 tons of bridge steel from the Milwaukee Bridge Co., and Missouri, Kansas & Texas has ordered 350 tons from the same company.

Baltimore & Ohio is reported in the market for 3000 tons of bridge steel.

Virginia & Carolina Railway, says a report, has ordered 5200 tons of rails from the Tennessee Coal, Iron & Railroad Co., Birmingham.

Louisiana Sawmill Co., Glenmora, La., is reported to have ordered two locomotives and log loader, besides rails for a 12-mile logging line.

Temple Northwestern & Gulf.

A charter has been filed at Austin, Tex., for the Temple Northwestern & Gulf Railway Co., capital \$100,000, by Col. J. F. Wolters of Houston, Tex. It proposes to build a line from Temple northwest to Dublin, Tex., about 100 miles. Such a road would traverse Bell, Hamilton, Coryell, Comanche and Erath counties, and the company is expected to take over the uncompleted property of the Temple & Northwestern Railway Co. and finish the line. Colonel Wolters is quoted as saying that active work will begin without delay and the line will be pushed to completion. Ultimately it will be extended from Temple to the Gulf of Mexico, about 175 miles. Headquarters are to be at Temple, Tex.

The incorporators are John H. Thompson, James F. Sadler, Jr., Jonathan Lane, A. S. Vandevort, J. R. Thompson, R. O. Faires and William A. Vinson of Houston; W. S. McGregor, W. F. McGregor and J. H. McGregor of Temple, Tex.

Seaboard Improvements for Tampa.

The Seaboard Air Line Railway will expend approximately \$100,000 for additional facilities on Seddon Island at Tampa. It intends to build a phosphate elevator, extend docks and bulkhead about 550 feet, improve and increase trackage facilities, extend and enlarge basin for anchoring vessels, and dredge to provide 24 feet of water at low tide. This elevator will be a five-story (90 feet) 37x37-foot structure of open steel framework except the second and fifth stories, which will be enclosed with galvanized-iron siding. The machinery will include two noiseless conveyors loading into vessels through two spouts, each conveyor to have an hourly capacity of 300 tons of phosphate. W. D. Faucette, the company's chief engineer, office at Portsmouth, Va., has plans and specifications for these betterments.

Western Maryland's Growing Traffic.

R. C. Caples, general agent of the traffic department of the New York Central Lines, has been appointed general traffic manager of the Western Maryland Railway, and will assume the duties of his new position in Baltimore on June 1. He recently made a trip over the Western Maryland lines in company with President J. M. Fitzgerald of that road, which connects with the New York Central at Connellsville, Pa., and handles freight from and to that system under a traffic agreement made several years ago, and which resulted in the construction of the Connellsville extension. The main line of the Western Maryland between Cumberland and Hagerstown is now being improved and otherwise prepared for handling a much larger volume of business to come from the Pittsburgh district to Baltimore, where terminal facilities are being enlarged for its accommodation.

To Adopt Electric Power.

R. C. Guinn, secretary, treasurer and general manager of the Covington & Oxford Street Railway, Covington, Ga., says that the company contemplates converting its horse-car line to the electric method of operation. This will require the track

to be laid with heavier rails, for which purpose good relayers will be used, and one or two cars will also be bought. Plans have not, however, been completed. The distance from Covington to Oxford is three miles. E. W. Fowler is president of the company, and F. E. Heard, vice-president. Other directors are C. H. White, R. R. Fowler, P. W. Godfrey, S. P. Thompson, D. A. Thompson, also of Covington; E. H. Johnson and M. F. Peed of Oxford, Ga.

Corinth to Shiloh and Hamburg.

The Corinth & Northwestern Railway Co., Corinth, Miss., has been granted a charter under an application filed several weeks ago. It proposes to build a railroad from Corinth northeast to Hamburg, Tenn., on the Tennessee River, a distance of about 18 miles, which will open up a new country. An engineer is preparing to make survey immediately. The region to be traversed is devoted to farming, and it contains considerable good timber. The line will reach Shiloh Military Park. Directors for the company have been elected thus: Abe Rubel, Russell Dance, G. A. Hazard, H. N. Young, J. A. McAmis, W. D. Conn, R. L. Young, W. E. Small and Clopton Thomas.

Flood Loss on the Norfolk & Western

According to a statement from Roanoke, Va., where the headquarters of the Norfolk & Western Railway Co. are located, it required the work of 1800 men for four weeks to make temporary repairs to the line after the recent Ohio flood damages. To finish permanent repairs will demand the work of 300 additional men for four months and 200 men for the next eight months. All repairs are to be finished by March of next year. Actual damage to the property amounted to \$526,500, and the loss of revenue to the road was approximately \$500,000, making a total loss of more than \$1,000,000. Besides this, \$700,000 will have to be expended to prevent similar loss hereafter under like conditions.

Authorized to Deal in Railroads.

The Florida Securities Co. has filed a charter in the Circuit Court at Jacksonville, Fla., and proposes, it is stated, to subscribe for, buy, invest in, hold, assign, pledge and otherwise dispose of shares of capital stock, bonds, mortgages, securities and other obligations, to own, operate and deal in railroads of all kinds. Its capital is \$50,000, in shares of \$100 each. The directors are C. H. Cawley, president; A. L. Cawley, vice-president; H. A. Williams, secretary and treasurer, and C. M. Fort, all of Jacksonville. The company may assume indebtedness up to \$300,000.

Tunnel Contract Awarded.

A report from Bluefield, W. Va., says that the Virginian Railway Co. has awarded a contract for the construction of a tunnel over 5100 feet long between Princeton and Merrimac, W. Va.

Railroad Notes.

A report from Beaumont, Tex., says that the Kansas City Southern Railroad Co. is ballasting its line from Beaumont to Shreveport, La., with oyster shells. About 80 carloads of shells are used daily, and the work is progressing nicely.

The St. Louis, Brownsville & Mexico Railway Co., says a report from Austin, Tex., has been authorized by the Texas Railroad Commission to issue \$306,058 of bonds upon additions and betterments already completed, and the securities will be registered with the State.

TEXTILES

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Aseptic Cotton Products Co.

The Aseptic Cotton Products Co., Chattanooga, has been incorporated with \$500,000 capital and purchased the plant of the Southern Aseptic Cotton Co. The latter's president, Robert T. Cameron, advises the MANUFACTURERS RECORD that the new company will consist of some of the same officers, with new officers, and that it will enlarge its facilities for manufacturing absorbent cotton, surgical gauze and bandages. The company contemplates building a general bleachery, and in a general way has discussed the construction of a large hosiery mill, but has no definite plans. These propositions were referred to last week.

Necronsett Mills.

The Necronsett Mills, Cumberland, N. C., has organized with the following officers: President, J. Frederic Houston of Philadelphia; vice-president and general manager, Dexter Stevens; secretary and treasurer, Arthur R. Heist. This company has acquired the cotton-yard mill of J. Frederic Houston & Co., and will continue its operation. It has no plans for enlarging or building another mill, therefore recent reports to that effect were erroneous. The company was previously mentioned as incorporated with \$400,000 capital stock.

Calhoun Hosiery Co.

The Calhoun Hosiery Co., Penrose, N. C., has organized with the following officers: President and treasurer, J. G. Scrutcher, Jr.; vice-president, F. P. Bacon; secretary, W. L. Talley. This company acquires the plant of the Penrose Manufacturing Co., equipped with 68 knitting machines for a daily capacity of 300 dozen pairs of hosiery and employing 50 operatives. It was recently reported as incorporated, and its capital stock is \$24,000.

Ridgeview Hosiery Mill.

The Ridgeview Hosiery Mill Co., Newton, N. C., has completed its mill previously outlined. It has a 165x80-foot one-story brick building, costing about \$10,000, equipped with 60 knitting machines for a daily capacity of 250 dozen pairs of ladies' hosiery. Electric power is used and 40 operatives are employed. This company is capitalized at \$21,000, and its officers are as follows: President, Luther F. Long; secretary and treasurer, J. A. Gaither; vice-president, John A. Isenhour of Conover, N. C.

The Cotton Movement.

In his report for May 23 Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during 265 days of the present season was 13,160,192 bales, a decrease under the same period last season of 2,169,128 bales. The exports were 7,962,391 bales, a decrease of 2,058,894 bales. The takings were, by Northern spinners, 2,215,715 bales, a decrease of 349,248 bales; by Southern spinners, 2,577,449 bales, an increase of 274,559 bales.

Textile Notes.

P. H. Anderson of Boston is reported as planning to establish a silk mill at Durham, N. C.

The Hadley-People's Manufacturing Co., Siler City, N. C., has awarded con-

tract for three additional new spinning frames.

The Greenville (S. C.) Thread Co., recently reported incorporated with \$2500 capital stock, has organized with Kerr Wilson, president, and J. B. Burgard, secretary.

The Saxe-Gotha Mills, Lexington, S. C., will install additional cardroom machinery, and has awarded contract for this new machinery.

The Stevenson (Ala.) Cotton Mills will install 40 twister and 200 spooler spindles, contract for this additional new machinery having been awarded.

LUMBER

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

R. A. Myer Lumber Co.

The R. A. Myer Lumber Co., Houston, Tex., has been incorporated by R. A. Myer and associates. It has arranged to purchase the properties of the Texas Lumber Manufacturing Co., including timber land estimated to contain 50,000,000 feet of pine timber and 40,000,000 feet of hardwood timber and a plant (saw and planing) equipped for a daily capacity of 60,000 feet of lumber. The purchase price is rumored to be \$250,000.

Plant to Cost \$250,000.

The Poitevant & Favre Lumber Co., New Orleans, will invest about \$250,000 for building its proposed sawmill at Mandeville, La. This plant will be of ordinary mill construction, and its equipment of machinery, for which bids will be opened on July 1, will have a daily capacity of 100,000 feet of pine lumber.

A \$300,000 Lumber Company.

The Kraus Bros. Lumber Co., capital stock \$300,000, has been incorporated by M. Kraus, A. J. Kraus, L. Kraus and J. G. Schwarschild of New Orleans.

MINING

To Mine Brown Iron Ore.

The Sugar Valley Brown Ore Mining Co., H. L. Davis, secretary, Chattanooga, writes to the MANUFACTURERS RECORD as follows:

"Our company has leased its ore lands neary Sugar Valley, Ga. (about 1200 acres), to A. J. Brown and I. T. Beattie of Birmingham, Ala. These gentlemen will complete the railroad now under construction to the ore field and erect a modern mining plant, including steam shovels, washers, crushers, pumps, etc., and will use locomotives and tram cars."

Embreeville Zinc Deposits.

Referring to recent reports that his company will develop zinc deposits, C. P. Perin of New York, president of the Embree Iron Co. of Embreeville, Tenn., writes to the MANUFACTURERS RECORD that no plans have been formulated for zinc developments, and none will at present be formulated.

To Develop Carolina Sulphur.

The Southern Sulphur Co., A. R. Kelly, superintendent, Scranton, Pa., is reported to be planning the development of sulphur property on Pasour Mountain in Gaston county, near Gastonia, N. C.

Another fire in the United States Geological Survey building at Washington has emphasized the timeliness of the authorization by the Sixty-second Congress of a new, modern, fireproof survey building to cost \$2,500,000.

MECHANICAL

Steam Turbines in the South.

In the South the small steam turbine is becoming increasingly popular for driving centrifugal pumps, generators and blowers. It is reliable, requires little attendance, and is economical in the use of steam. Some of its many advantages include minimum repairs, small consumption of lubricating oil, the elimination of the expense of packing, the small space occupied, freedom from vibration, with

New York. It is used in connection with a 2000-kilowatt G. E. horizontal shaft steam turbine for power plant manufactured by the General Electric Co., Schenectady, N. Y.

An increasing service of turbo-pumps in the South is found in the sugar-houses, where the chief use is for driving centrifugal pumps furnishing circulating water for use in condensers and other apparatus throughout the house, and also for rotaries.

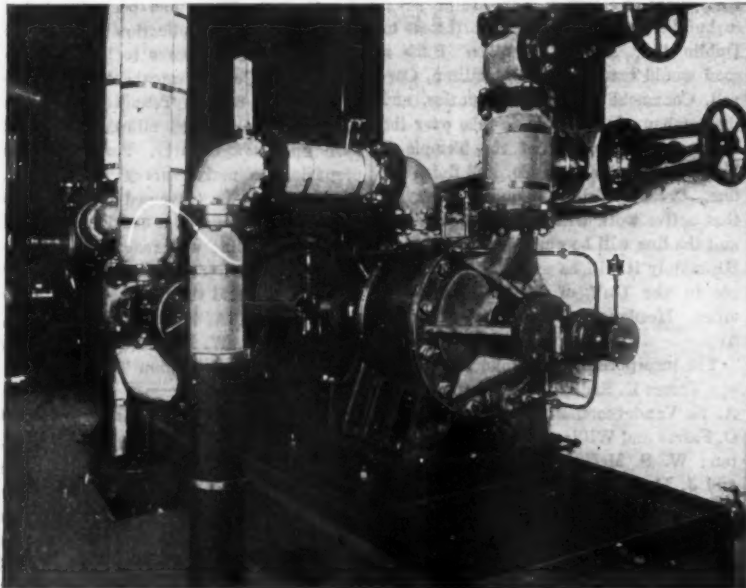
Turbine-driven centrifugal pumps also make convenient syrup pumps and juice

pumps states that clear ice and other satisfactory results have been obtained by their use.

In irrigation work the use of the centrifugal pump is becoming standard practice. In 1912 A. M. Lockett & Co., who do a large amount of this work, state that they made installations of centrifugal pumping plants for irrigation and drainage totaling 1,192,000 gallons per minute. This was equivalent to a flow of 2048 cubic feet per second, or a combined capacity of 1,716,000,000 gallons per day. A number of these centrifugal pumping plants are located where gravity irrigation would be possible, but it is considered better in those particular instances to expend the costs for fuel than to put in expensive dams.

The use of turbine-driven generator sets for lighting purposes in sawmills, sugar-houses, etc., in the South is growing. The turbine-driven generator set is also used for power service in steam laundries. The large Southern central stations are using them as exciter sets. The turbine-driven generator set can be furnished for either alternating or direct current.

A large number of Southern water-gas companies are using turbine-driven gas-blower sets. With these sets high pres-



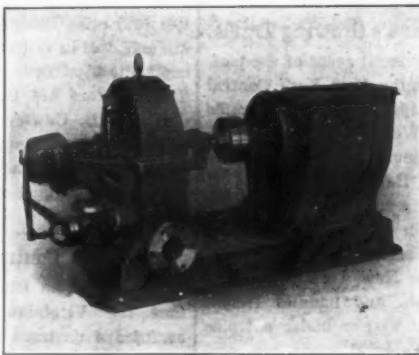
TERRY TURBINE-DRIVEN PUMP OF HOUSTON ELECTRIC-LIGHT CO.

consequent light foundations, and the exhaust steam being free from oil, it may be used in heating systems and in manufacturing processes.

One of the principal fields for the small steam turbine has been for driving pumps, such as boiler feed and condenser pumps, as well as general service and tank pumps. In the use of barometric condensers the exhaust steam of the prime movers mixes with the cooling water. For pumping this cooling water the small turbine is being used widely in the South, and a typical recent illustration is that afforded by the new power plant of the

pumps, and are being more and more used for this purpose. As the exhaust steam of the turbine is free from oil, it may be used for evaporation. The unit occupies little space, runs to full capacity without setting up any hammering or vibration in the pipe system, and it is claimed that it has shown its ability to run throughout the season without closing the throttle. The combined unit with two pumps driven from a single turbine may be used in sugar-house work, one of the pumps circulating the condensing water and the other handling the hot-well condensation.

In breweries and ice plants in the South

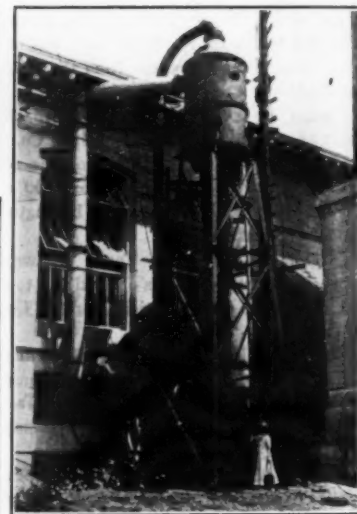


BLOWER SET AT MONTGOMERY (ALA.) INCINERATING PLANT.

Gulfport & Mississippi Coast Traction Co., Gulfport, Miss. At this plant, for which A. M. Lockett & Co., Ltd., New Orleans, La., were the mechanical engineers, there is a 3000-gallon-per-minute Terry turbine-driven pump, which is used for circulating the large volumes of condensing water. In the accompanying illustration is shown an exterior view of the barometric condenser at one side of the power plant. The turbine was manufactured by the Terry Steam Turbine Co., Hartford, Conn., and the condenser by Henry R. Worthington, 115 Broadway,

turbine-driven centrifugal pumps have been installed for handling brine and water, since in selecting a pump not only first cost is considered, but the expense of attendance and repairs for a period of years as compared with the duty accomplished. For pumping liquids liable to corrode the centrifugal pump, the impellers of the pump are made of special non-corrosive metals.

A feature of the turbine in ice plants is the fact that as the exhaust steam is free from oil, it can be condensed for making ice. An ice factory owner using turbine



BAROMETRIC CONDENSER AT A GULFPORT (MISS.) POWER PLANT.

sures are possible, giving good "making" periods with relatively shorter "blowing" periods and effecting 15 to 30 per cent. increased output without other changes in the plant. In the development of Southern industries, the turbine is thus seen to be taking an important part. The large illustration shows an installation in Houston, Tex., and the small one a blower set at the Montgomery (Ala.) incinerating plant.

Reinforcing Levees With Steel Sheet Piling.

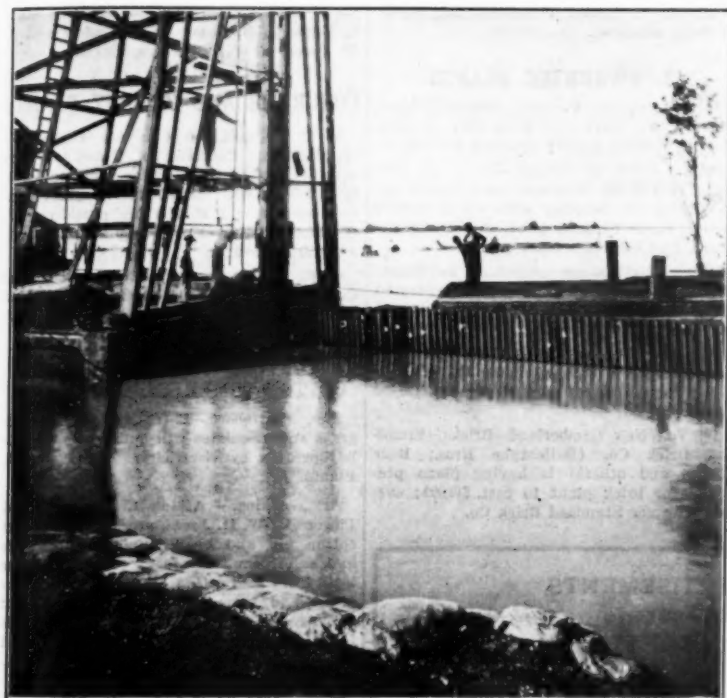
On the south side of the Mississippi River, between Donaldsonville, La., and Port Barrow, the La Fourche Bayou extends about 125 miles into the country to the south and connects with other bayous through to the Gulf of Mexico.

A levee was built across the mouth of the bayou a number of years ago to protect the villages and plantations, as the weak earth dams confining the bayou along its banks were not strong enough to resist the occasional rise of the Mississippi River. After the levee was completed a syphon consisting of three 18-inch pipes was constructed to allow sufficient water from the Mississippi to flow into the bayou, thereby keeping it at a certain low-water mark. The town of Donaldsonville was formerly the capital of

the State of Louisiana, and when its fine old Statehouse was torn down the bricks were carried to this levee and placed at the foot to prevent the waters from washing away the earth. While this, to a certain extent, prevented the erosion of the levee, it did not succeed in stopping the seepage through it, and during recent high waters of the Mississippi a large number of sand boils were discovered on the bayou side of the levee. These little holes clogged up occasionally, while others would start up, and often two or three streams would unite in one and a comparatively large stream result. The situation was constantly growing worse, and

piling went on from dawn to twilight. All the piling was driven to a penetration of 34 to 38 feet, and an average of 40 piles per day were driven by means of a No. 1 Vulcan steam hammer of the Vulcan Iron Works, Wilkes-Barre, Pa., in 50-foot leads mounted on a scow, as shown in the illustration. Altogether, it was a very severe test for both the welds and the piling, since the piling is lighter than should be used for such long lengths, which under the terrific impact of the 12,000-pound steam hammer was subjected to a stress far beyond that which the piling was designed to sustain.

As the piling was driven to grade, it



WEMPLINGER STEEL SHEET PILING TO CONTROL FLOOD WATERS.

the levee, being almost completely saturated with water, was becoming so threatening that Major Kerr, Louisiana State Engineer, thought it advisable to take immediate action.

The only remedy appeared to be the strengthening of the embankment in such a way as to make it resist the high pressure of the flood waters and to make it impervious to further undermining. To accomplish this it was decided to drive a row of Wemlinger corrugated steel sheet piling, made by the Wemlinger Steel Piling Co., 11 Broadway, New York, from the Donaldsonville side to the Port Barrow side of the bayou in front of the levee,

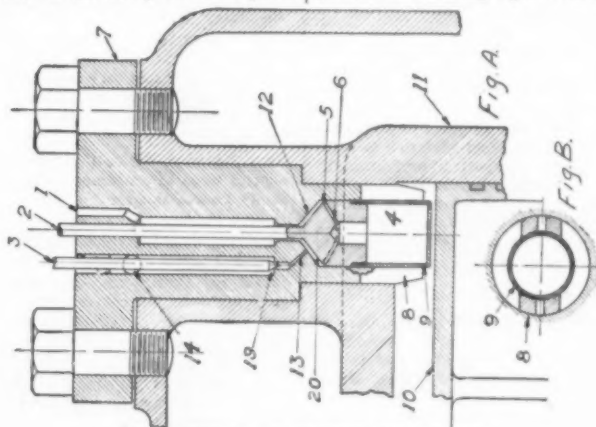
was noticed that some of the sand boils ceased to flow, while others which did not stop altogether passed only clear water, showing that the sand was held. This particular case shows the possibilities of the use of metal sheet piling in solving the great problems of properly controlling the flood waters of our rivers, which problems are now before the public and the engineers of the country.

The St. Marys Oil Engine.

An engine to operate on any fuel oil, including the cheap heavy oils, and eliminating the usual magnetos, sparking outfits, etc., has been designed and is manu-

der is also cut off. Early in the stroke a sufficient amount of compression is allowed to pass the valve into the primary cylinder to ignite the gases. This primary explosion raises the temperature in the primary cylinder, where pressure forces the heavy oil collected at the bottom of the cylinder out through the port into the main combustion cylinder, where the final combustion of the heavy oil takes place.

It is claimed that the Badger joint, shown in the illustration, combines the elasticity to stand repeated changes of shape, with strength to resist pressures for which the joint is designed. The well-known corrugated form, such as used for furnaces of internally-fired marine boilers, is adopted because of its strength and flexibility. External rings on the corrugations of the Badger joint distribute the



OIL DEVICE, ST. MARY'S OIL ENGINE.

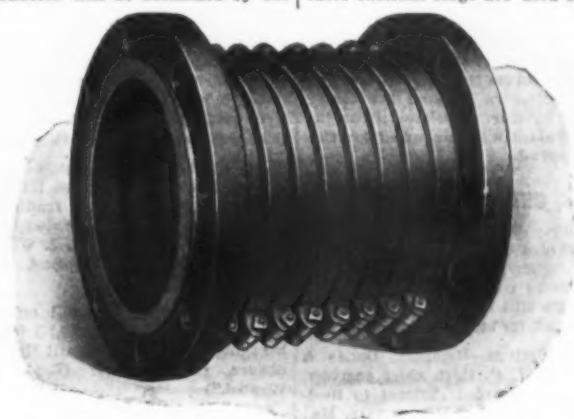
This process is repeated over and over, and thus operates the engine.

By this means the high pressure pumps, high compression air compressors, batteries, magnetos, spark igniters, fuel pump, carburetor, etc., are eliminated. The fuel flows to the engine by gravity, and is taken in on the suction stroke. The engine starts on the fuel, which is regularly used in the engine without preheating any part of the engine or the fuel, and kerosene, crude oil and other heavy oils may be used, and it is claimed that the engine gives complete combustion of the fuel, thus eliminating carbon deposits, etc.

This is the H. O. type of engine, and it is stated that asphaltum base oils can be used readily; also that the engine may be operated on lard oil and sperm oil, or any oil that will flow when reasonably warm. This engine is supplied in sizes from 1½ to 500 horse-power. Detailed specifications and guarantees will be furnished by the

strains among several corrugations, and by thus bringing many corrugations into service no one of them is called upon to take more than its share of the work. The external rings force a part of the strain to the next corrugation, and as each corrugation has but slight movement, the joint has efficient durability. The external rings give added strength to the joint in the same way that spiral winding of a pipe with wire adds to its strength.

The number of corrugations depend upon the pressure and upon the length of the joint. For high pressures and superheated steam the change in length is considerable, therefore more corrugations are used. For very low pressures, as in exhaust piping, two or three corrugations are sufficient for the slight alteration in length. There are even some cases where the expansion is such that the joint does not need any external rings. But in most cases external rings are used both to add



BADGER SELF-EQUALIZING EXPANSION JOINT.

company on request. The engine is described in Bulletin No. 52 issued by the company.

Badger Self-Equalizing Expansion Joint.

The Badger Self-Equalizing Expansion Joint is a corrugated copper joint having external rings, and is designed to take up changes in length in pipe lines, whether these pipe lines convey steam, water or air, thus relieving the strains in pipe lines caused by expansion and contraction. Loose, leaky fittings and perhaps here and there a fractured joint, point conclusively to the necessity for some device having sufficient flexibility to absorb these changes in length.

strength for high pressure and also to stiffen the exhaust pipe against collapse.

The Badger expansion joint is made by the E. B. Badger & Sons Company, 74 Pitts street, Boston, in a complete line of sizes for various pressures and with flanges drilled to A. S. M. E. standards. The joints require no packing. For low-pressure work they have been made up to six feet in diameter and have been made oval, rectangular, circular and in special forms.

The first shipment of watermelons from Florida this year was made from Tarpon Springs when two carloads were sent to New Orleans.



LEVEE WITH STEEL SHEET PILING CONSTRUCTION.

as indicated in the accompanying illustrations.

Three carloads of this steel sheet piling were on consignment at New Orleans, but the material was only 15 feet long and 3-16 inch thick, which was rather light for the work to be done. However, in view of the great emergency, it was concluded to make an attempt to use this material by welding three pieces together so as to provide 45-foot lengths. The welding was done by placing the sheets end to end and fusing together the contiguous edges of the metal by means of the oxy-acetylene blow-pipe.

The piling, as soon as welded, was loaded on a barge that was rushed to the scene of danger, and the driving of the

factured by the St. Marys Machine Co., St. Marys O.

A sectional view of the remarkable oil injection and spraying device, which forms an important new feature of this oil engine, is shown in the accompanying illustration. One of the principal features of the device is that it acts as a still, separating the light hydro-carbons from the heavy parts of the oil, which hydro-carbons ignite easily at a temperature much lower than the oil, so that the heat of compression ignites it. The process of distillation is carried on independently for each suction stroke. On the compression stroke all connection with the air and oil supply is cut off, and connection between the primary cylinder and the main cylinder

Construction Department

TO OUR READERS!

In order to follow up properly the Construction Department items, please bear in mind the following statements:

EXPLANATORY

The MANUFACTURERS RECORD seeks to verify the items reported in its Construction Department by full investigation. It is often impossible to do this before the item must be printed or else lose its value as news, and in some items it is found advisable to make statements as "it is reported" or "rumored," and not as positive information. If our readers will note these points they will see the necessity of the discrimination. We are always glad to have our attention called to errors that may occur.

HOW TO ADDRESS

The name of one or more incorporators of a newly incorporated enterprise should always be shown on letter addressed to the official headquarters or to the town of the parties sought, as may be shown in the item. Sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. By following these general directions the postoffice will be enabled to deliver your mail promptly, although it is inevitable that some failure by the postal authorities to deliver mail to new concerns will occur.

WRITE PERSONAL LETTERS

In communicating with individuals and firms reported in these columns a letter written specifically about the matter reported will receive better and quicker attention than a circular. In most instances a return postal card or addressed and stamped envelope should be enclosed with letter.

In correspondence relating to information published in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

The Daily Bulletin of the Manufacturers Record is published every business day in order to give the earliest possible news about new industrial, commercial, building, railroad and financial enterprises organized in the South and Southwest. It is invaluable to manufacturers, contractors, engineers and all others who want to get in touch at the earliest moment with new undertakings, or the enlargement of established enterprises. The subscription price is \$25 per year. On all advertising contracts in the Manufacturers Record for three months or longer a subscription to the Daily Bulletin is included for the contract period.

BRIDGES, CULVERTS, VIADUCTS

Ala., Mobile. — Mobile County Board of Revenue awarded contract to J. L. Henderson of Birmingham, Ala., at \$1899.05 to construct reinforced concrete bridges and culverts on Hall's Mill Rd. from Station 290 to Theodore. (Call for bids lately noted.)

Ark., Hot Springs. — Memphis, Dallas & Gulf Railroad, W. P. Hart, chief engineer, Nashville, Ark., awarded contract to Blodgett Construction Co. of Kansas City, Mo., at \$35,000 to construct bridge across Ouachita River; length, 612 feet; stone and steel.

Ky., Burnside. — Burnside Bridge Co. petitioned Secretary of War for authority to construct toll bridge across Big South Fork of Cumberland River; steel, with two draw spans.

Ky., Madisonville. — Hopkins county will construct three 50-foot span, one 56-foot span and one 100-foot span steel bridges recently noted; will let contract June 4; M. E. Stone, County Engineer. (See "Machinery Wanted.")

La., Monroe. — City will vote on tax to reinforce free traffic bridge. Address Mayor Forsythe.

Md., Williamsport. — Cumberland Valley Railroad, G. C. Koons, engineer, Chambersburg, Pa., will, it is reported, construct four-track concrete bridge across Potomac River about two miles south of Williamsport.

N. C., Concord. — Cabarrus County Commissioners awarded contract to Robbins & Bulla

at \$2170 to construct bridge over Rocky River at Hartsell-Biggers Rd.

N. C., La Grange. — Lenoir County Commissioners, Kinston, N. C., will open bids July 7 for construction of recently-noted single-track steel bridge to cost about \$8000. (See "Machinery Wanted.")

Okla., McAlester. — Pittsburg county will expend \$1800, \$2500 and \$4500, respectively, to erect 125-foot, 75-foot and 50-foot steel spans recently noted; T. W. McLaughlin, engineer in charge; bids opened June 9. (See "Machinery Wanted.")

Okla., Stigler. — Haskell county will vote on bond issue to construct bridge. Address County Commissioners.

S. C., Cheraw. — G. A. Sherrill, township supervisor, awarded contract to A. D. Chapman of Cheraw to construct bridge over Worthberry Creek; one steel span 44 feet long, anchored to concrete abutments on each side of creek. (Recently mentioned.)

S. C., Cheraw. — G. A. Sherrill, township supervisor, awarded contract at \$2686 to build bridge over Thompson's Creek, three miles from Cheraw; one steel span on concrete abutments.

Tenn., Lebanon. — Wilson County Commissioners awarded contract to E. T. Lewis Company of Nashville, Tenn., at \$1050 to construct bridge across Gay St.; concrete piers and floor; steel railings; will arrange to construct concrete bridge on West Main St.

Tenn., Lebanon. — City will construct reinforced concrete bridge across Town Creek on W. Main St.; will consist of two spans, one 19 feet and one 24 feet; width 64 feet; contract let July 7; plans on file with City Engineer. (See "Machinery Wanted.")

H. N. Ingram, Jacob Wesley and A. N. Varney.

La., Covington. — St. Tammany Canning Co., capital stock \$50,000, incorporated; will establish cannery; W. L. Stevenson, president; E. J. Frederick, vice-president; A. C. McCormack, secretary-treasurer. (Recently mentioned.)

Mo., St. Louis. — Best-Clymer Manufacturing Co., capital stock \$10,000, incorporated by Milton G. Clymer and Louis Rosen of St. Louis and Rudolph Best of Kansas City, Mo.

Va., Front Royal. — Fork Union Canning Co., incorporated with J. E. Henson, president; T. M. Borke, vice-president; N. B. Sealock, secretary.

CLAYWORKING PLANTS

Md., Baltimore. — Pottery. — Edwin Bennett Pottery Co., Fleet and Eden Sts., is planning to rebuild pottery reported burned.

S. C., Columbia. — Bricks. — James P. Williams and T. C. Williams are planning organization of company with about \$100,000 capital stock to develop shale and clay deposits and establish brick plant.

Tenn., Chattanooga. — Bricks. — Key-James Brick Co., capital stock \$100,000, incorporated by C. E. James, J. D. Key, J. L. Davis and others.

W. Va., Huntington. — Bricks. — West Virginia Paving & Pressed Brick Co. contemplates increasing capacity of plant to 100,000 bricks.

W. Va., New Cumberland. — Bricks. — Standard Brick Co. (Ballentyne Bros., Burr Brown and others) is having plans prepared for brick plant to cost \$40,000; succeeds former Standard Brick Co.

PROPOSAL ADVERTISEMENTS

IN THIS ISSUE ARE

PUBLISHED ON PAGES 82, 83 and 84

In order to secure best bids from leading engineers, contractors and investment houses, the proposal advertising columns of the Manufacturers Record are invaluable.

Rate 20 cents per line per issue.

When Proposal Advertisements cannot be sent by mail in time to secure insertion before date for opening bids, please wire advertisement copy collect by Night Letter.

Proposal Advertising forms close Wednesday, 10 A. M.

COAL MINES AND COKE OVENS

Ala., Birmingham. — White Cross Coal Co., capital stock \$5000, incorporated; John Kerr, president; C. H. Kerr, treasurer; Lee Stone, secretary.

Ala., Jasper. — Alabama Mineral Land Co., Birmingham, Ala., purchased 12,000 acres coal land on Black Creek.

Ala., Montevallo. — Montevallo Coal Co., W. S. Lovell, president, will further develop coal mining property.

Ky., Hazard. — North Fork Coal Co., E. L. Speake, general manager, has arranged for development of coal mines.

Mo., Centertown. — Charles D. Bachelor, St. Louis, Mo., purchased W. H. Chambers' coal mining property and will develop; install several thousand dollars worth of machinery.

Tenn., Chattanooga. — Cumberland Mountain Land Syndicate, 609 James Bldg., will build \$1,500,000 by-product coke-oven plant with annual capacity 275,000 tons; C. H. Smith in association with Cumberland syndicate recently mentioned as planning ovens; he is engineer in charge. (See Tenn., Whitwell.)

Tenn., Knoxville. — Bon Jellico Coal Co. increased capital stock from \$100,000 to \$200,000.

Tenn., Whitwell. — Cumberland Mountain Land Syndicate, C. H. Smith, engineer in charge, 609 James Bldg., Chattanooga, Tenn., will develop 21,000 acres Sewanee seam coal land; plans building modern mining town and installing latest machinery; buildings to be of steel and brick fireproof construction; equipment to include central power station, ventilating fans, mining machines, haulage locomotives, pumps, etc., all driven by electricity; plans to construct by-product coke-oven plant at Chattanooga; this plant to include 60 ovens (275,000 tons coke annual capacity), costing about \$1,500,000.

Tex., El Paso. — Hines Lumber & Coal Co., capital stock \$20,000, incorporated by R. E. Hines, E. G. Hines and D. E. Gibson.

W. Va., Fayette. — Ridgewood Smokeless Coal Co., capital stock \$50,000, incorporated by James M. Kennedy, Richard D. O'Shaughnessy, A. E. Hoffman, J. H. W. Hubbell and Richard W. Walsh, all of Chicago, Ill.

W. Va., Lex. — Lex Pocahontas Coal Co., capital stock \$25,000, incorporated by J. H. Harmon, Russell Mott, Walter C. Haught and others.

W. Va., Madsville. — R. F. D. from Vanvorhis. — W. A. Stone Fuel Co., capital stock \$50,000, incorporated by W. A. Stone, William L. Gans, H. B. Gans, Albert Gaddis and S. W. Jones, all of Uniontown, Pa.

CONCRETE AND CEMENT PLANTS

N. C., Wilmington. — Concrete Products. — Herring-Short Concrete Co., Front and Harnett Sts. (recently noted incorporated, capital \$25,000), will manufacture various concrete products; J. C. Herring, president; W. G. James, vice-president; Augustus S. Short, secretary-treasurer.

Okla., Oklahoma City. — Silos. — Diamond Concrete State Silo Co., capital stock \$10,000, incorporated by Bertha M. Stanley, Charles J. Perkins and R. E. Stanley.

COTTON COMPRESSES AND GINS

Ala., Scottsboro. — E. C. and John Snodgrass and associates will build cotton gin to be operated by electricity. (See "Electric Plants.")

Ark., Atkins. — Atkins Electric Light & Power Co., W. H. Jones, president, will erect cotton gin and electric-light plant; office and salesroom 22x20 feet; cottonseed-house 20x50 feet; seed cotton house 36x36 feet; gin-house and room for generator 20x30 feet; boiler-room 22x36 feet; engine-room 18x36 feet; concrete floors; galvanized siding and roof; whole cost \$12,000; day labor; machinery (mainly purchased) includes two boilers 60 inches by 16 feet, high-pressure, 100 horse-power, and 14x36 Corliss engine. (See "Machinery Wanted.")

S. C., Bamberg. — Farmers' Ginning Co., capital stock \$1500, incorporated by Jones A. Williams, Janie C. Lewis and May B. Williams.

Tex., Brookston. — Citizens' Gin Co., capital stock \$10,000, incorporated by M. L. Smiley, J. H. Hogue and J. R. Harmon.

Tex., Clifton. — Davidson-Bronstad Gin Co. organized; R. E. Davidson, president; H. A. Nelson, vice-president; O. M. Bronstad, secretary; M. A. Callon, treasurer; has buildings and machinery. (Recently noted incorporated with \$7500 capital stock.)

Tex., Gilmer. — Cotton Compress & Warehouse Co., capital stock \$15,000, incorporated; Doc Duphrate, president; R. H. Hill, vice-president; H. P. Gaughy, secretary; J. E. Croley, treasurer.

Tex., Plano. — Farmers' Gin Co. (recently noted incorporated, capital stock \$15,000) will install 10 gin stands and 2 presses; capacity about 120 bales daily; machinery purchased; cost about \$12,000; building proposals opened about June 1 for erection of fireproof 40x100-foot ginhouse.

Tex., Riverdale. — P. O. at Goliad. — Riverdale Ginning & Milling Co. will operate cotton gin at Riverdale, 12 miles from Goliad; has building and machinery; L. Seelgson, president; R. L. Pettus, vice-president; W. M. Seelgson, secretary-treasurer. (Recently noted as Riverside Ginning & Milling Co., incorporated with \$7000 capital stock.)

Tex., Sample. — Sample Gin Co. (recently noted incorporated, \$8000 capital stock) will erect fireproof gin buildings; J. H. Parla to be addressed relative to buildings; machinery purchased; F. B. Houston, president; E. O. Mutschler, secretary, treasurer and manager.

Tex., Somerset. — R. F. D. No. 1. — Farmers' Union Gin Co. purchased Oppermann & Kutzer's cotton gin and will continue operations; daily capacity, 40 bales; A. M. Pyron, president; L. F. Heckman, secretary-treasurer. (Recently noted incorporated with \$7000 capital stock.)

Tex., White Rock. — R. F. D. from Clarksville. — Farmers' Gin Co., capital stock \$7500, incorporated by G. E. Jordan, C. M. Dolins and H. E. Holloway.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

COTTONSEED-OIL MILLS

La., Jonesboro.—Jonesboro Oil Mill & Fertilizer Co., capital stock \$50,000, organized with W. W. Davis (manager Tremont Lumber Co.'s Jonesboro mill) as president; will build plant.

Okla., Hobart.—Baker Cotton Oil Co., capital \$30,000, incorporated; W. U. Baker, W. Long, W. C. Baker and others.

DRAINAGE AND IRRIGATION

Ark., Newport.—Cow Lake Drainage District Commissioners (George R. Hays, J. M. Gibson and R. D. Dennis) are arranging for construction of drainage canal; district comprises 34,000 acres.

Fla., Miami.—W. R. Comfort of New York contemplates constructing dykes and canals for drainage of plantation in Everglades; will grow sugar-cane.

Fla., Murdock.—Southern Drainage & Construction Co., C. Oettinger, secretary, Kingston, N. C. (recently noted as receiving contract to construct 48 miles drainage canals), advises that contract is not completed; the lands are in De Soto county, Murdock Drainage District, and bids were previously noted; 4 canals, 15 feet bottom width, 30 feet at top; 5½ feet deep; 16 canals, 8 feet wide at bottom, 15 feet at top, 4 feet deep; approximate cost \$120,000; A. L. Durrance, clerk, De Soto County Commissioners.

Mo., Elsberry.—Supervisors Elsberry Drainage District will issue \$325,000 bonds for complete drainage system; contains 20,000 acres; after reclamation will be used for farming.

N. C., Concord.—Big Cold Water Drainage District, John A. Scott, secretary, Board of Drainage Commissioners, awarded contract to Mart P. Moore, Statesville, N. C., at \$15,000 for ditching streams and \$150 per cubic yard for removing rock; total cost about \$23,000. (Recently noted call for bids.)

N. C., Elizabeth City.—Parkville Drainage District No. 1 will construct about 10 miles drainage canals; yardage 262,000; bids received June 11; Walter Sharp, chairman, Drainage Commissioners, Norfolk, Va.; R. R. Eagle, superintendent of construction, Newbern, N. C. (See "Machinery Wanted.")

Tex., Ballinger.—Colorado River Power Co., E. C. Alexander, North Texas Bldg., Dallas, Tex., is reported as planning construction of 1,000,000 dam across Colorado River near Ballinger, to store water for irrigating 75,000 acres land. Mr. Alexander wires Manufacturers Record: "Later will write full details."

ELECTRIC PLANTS

Ala., Birmingham.—Birmingham Railway, Light & Power Co. will construct 2300-volt transmission system to Lewisburg, Kimberly and Sibleyville, about 25 miles north of Birmingham, and furnish power for coal mines and manufacturing plants; estimated cost \$50,000; will install high power turbine engine in power plant at 18th St. and Powell Ave.

Ala., Citronelle.—Citronelle Light, Ice & Power Co., present address Mobile, Ala. (after July 1, Citronelle), purchased Citronelle Planing Mill Co.'s plant and will remodel for electric light and ice plant; cost \$25,000; install 50 K. W. 60-cycle, 2300 volts generator and 10-ton ice plant; C. H. Lindsey, superintendent, Mobile, Ala.; Mr. Lindsey recently noted interested and franchise granted. (See "Machinery Wanted.")

Ala., Scottsboro.—E. C. and John Snodgrass, J. W. Gay, R. C. Coffey and N. F. Thaxon will build electric-light and power plant; also cotton gin to be operated by electricity.

Ark., Atkins.—Atkins Electric Light & Power Co. (recently noted organized with \$15,000 capital stock), W. H. Jones, president, will erect electric-light plant and cotton gin; cost \$12,000. (See "Cotton Compresses and Gins" and "Machinery Wanted.")

Ark., Booneville.—Booneville Water-works Co. acquired electric plant of Citizens' Electric & Telephone Co. and is rebuilding same; will install 50-kilowatt three-phase 60-cycle 230-volt generator, with exciter and switchboard, with instruments; also lamps and line material, including wire, insulators, pole steps, etc., and electrical supplies; electric and water meters; also motor-driven pumps and constant-current transformer for street-lighting circuit.

Ark., Green Forest.—Green Forest Milling & Elevator Co., J. Villines, president, installing electric-light plant.

Ark., Huntington.—Coal & Gas Belt Electric Co. contemplates installing extra panel

switchboard and 25 100-watt Mazda series lamps for street-lighting system.

Ark., Morrilton.—Morrilton Light & Power Co. (William L. Moose and associates) will rebuild electric-light plant burned at estimated loss of \$10,000; reported to erect brick building.

Fla., Leesburg.—Leesburg Ice Co. contemplates installing additional equipment, doubling capacity of electric-light plant.

Fla., Labelle.—E. E. Goodno contemplates doubling capacity of electric-light and ice plants; former maintains 1000 lamps.

Ga., Augusta.—Bradshaw Milling & Power Co., capital stock \$27,000, incorporated by William E. Norrell, James H. Norrell and others.

Ga., Jefferson.—City contemplates installing electric-light plant, water-works and sewerage system; information furnished by Sydney J. Nix, City Councilman.

Ga., College Park.—College Park Light & Water Co., Charles B. Riddle, Jr., superintendent, Box 188, will make extension to plant; install (within next five months) 60-kilowatt engine-type unit; no prices asked at present; improvements to cost \$44,000.

Ga., Statesboro.—City contemplates installing additional equipment in electric-light plant; D. L. Gould, manager.

Ga., Waynesboro.—City contemplates installing equipment in electric-light plant. J. C. Andrews is superintendent.

La., Vivian.—Vivian Oil Co. will build \$50,000 power-house.

Miss., Port Gibson.—City will install 150-horse-power water-tube boiler in electric-light plant; H. D. Brownlee, superintendent.

Mo., Oregon.—City will install 60-horse-power oil engine in electric-light plant. Address The Mayor.

Mo., Kansas City.—Kansas City Electric Light Co. contemplates remodeling Metropolitan power plant at 9th St. and Blue River; estimated cost, \$50,000.

Okla., Hinton.—City awarded contract to Don A. Tolbert, Ada, Okla., at \$25,917 for construction of electric lighting and water systems; Benham Engineering Co., consulting and supervising engineer, 435 American National Bank Bldg., Oklahoma City, Okla. (Bids recently noted.)

Okla., McCurtain.—Twin City Ice, Light & Power Co., recently noted incorporated, \$5000 capital stock, to supply electricity to McCurtain and Chant, Okla., and to remodel plant, states will develop 140 horse-power; B. A. Little, manager. (See "Machinery Wanted.")

S. C., Georgetown.—Georgetown Gas & Electric Co., capital stock \$100,000, incorporated by Clawson Bachman and James T. Hayden, both of Philadelphia, Pa.

Tex., Dallas.—Dallas County Commissioners open bids about August 1 to 15 to erect power plant in connection with jail; plans prepared by Harry A. Overbeck, 503 Junata Bldg., Dallas. (See "City and County.")

Tex., Sanderson.—Ed McGinley will install electric-light plant; cost \$10,000.

Va., Eastville.—Stanley Scott and associates contemplate building electric-light and ice plants.

W. Va., Wheeling.—Wheeling Traction Co., G. O. Nagle, general manager, advises that plans are as yet only prospective relative to recently-noted enlargement of Wheeling power-house and building of substations at Warwood and McMechen, W. Va.

FERTILIZER FACTORIES

Ala., Enterprise.—H. M. Sessions will, it is reported, organize company to establish fertilizer plant.

La., Jonesboro.—Jonesboro Oil Mill & Fertilizer Co. organized with W. W. Davis, president. (See "Cottonseed-oil Mills.")

Va., Falling Springs (not a postoffice).—T. M. Gathright, Covington, Va., advises that company recently noted as Falling Springs Marl Co. will probably incorporate as Falling Springs Soluble Lime Co.; capital stock \$100,000; O. C. Barber, Akron, O., president; L. M. Latta, engineer; main office to be at Covington; purchased 1167 acres marl or soluble lime land; estimated cost of mining and crushing machinery, electric machinery, water-wheel and electric railroad, \$30,000; machinery and equipment purchased, with exception of cars; construction progressing; plant under construction to have capacity 20 tons per hour; Mr. Gathright to be in charge of sales department; additional facts previously stated. (See "Machinery Wanted.")

FLOUR, FEED AND MEAL MILLS

Fla., Tampa.—Williams & Co., capital stock \$10,000, incorporated; R. D. Hobart, president, Omaha, Neb.; John S. Williams, vice-president-secretary, and B. W. Williams, treasurer-manager, both of Macon, Ga.

Ga., Augusta.—Bradshaw Milling & Power Co., capital stock \$27,000, incorporated by William E. Norrell, James H. Norrell and others.

Ky., Lebanon.—Thomas Mattingly will replace flour mill partially destroyed by explosion.

La., New Orleans.—Sears Feed Milling Co., capital stock \$200,000, organized; will continue Stafoliffe Feed & Milling Co., Ltd.; erecting plant at Chalmette; George E. Sears, president; William J. Castell, vice-president; Adolph D'Aquin, treasurer.

Mo., Williamsville.—Williamsville Roller Mill Co., capital stock \$10,000, incorporated by W. L. Rhodes, C. E. Sharp and Ethel Rhodes.

FOUNDRY AND MACHINE PLANTS

Ala., Birmingham.—Brass and Bronze Products.—Daniel Manufacturing Co., William H. Daniel, president, 224 Chamber of Commerce Bldg., will erect frame and brick building; cost \$2500; construction under supervision of company; install machinery for finishing brass castings, making galvanized-iron castings and general bronze work; cost \$14,700; is negotiating for machinery; daily capacity, 150 complete castings. (Recently noted incorporated, with \$50,000 capital stock, under "Miscellaneous Factories.")

Fla., Dunedin.—Packing-house Equipment.—L. B. Skinner Manufacturing Co., capital stock \$10,000, incorporated to manufacture washers, dryers and other equipment for packing-houses, etc.; L. B. Skinner, president-secretary-treasurer, and B. C. Skinner, general manager, both of Dunedin; William Hunter, vice-president, Tampa, Fla.

Md., Baltimore.—Shaft Couplings.—Automatic Shaft Coupling Co., incorporated, \$120,000 capital stock; F. H. Cathcart, president and manager, 1006 Continental Bldg.; manufacture patented shaft coupling for automatically coupling line shafting for power transmission; manufacture by contract at present.

Mo., St. Louis.—Bolt and Rivet Machinery. Wallace Automatic Bolt & Rivet Machine Co., capital stock \$100,000, incorporated by J. T. Wallace of St. Louis, Mo.; W. F. Dowerman and W. A. McCoy of Pittsburgh, Pa.

Okla., Chickasha.—Cotton Machines.—Hart Cotton Machine Co. (recently noted incorporated, \$30,000 capital stock) continues former copartnership business; R. K. Wootton, president; B. P. Smith, vice-president; Ed. F. Johns, secretary-treasurer; Joseph L. Hart, manager.

Tenn., Memphis.—Oil and Sawmill Machinery, etc.—Chickasaw Machine & Foundry Co. (recently noted incorporated by T. L. La Malta and others with \$30,000 capital stock) states will operate fully-equipped plant at former location of Chickasaw Iron Works, 2d and Winchester Sts.; manufacture oil mill, sawmill and special machinery; also conduct heavy class repair work; Chickasaw Iron Works to manufacture in future steel and cast-iron structural work exclusively.

Tenn., Memphis.—Steel Structural Work, etc.—Chickasaw Machine & Foundry changes and will now manufacture exclusively structural work in steel and cast-iron. (See Tenn., Memphis—Chickasaw Machine & Foundry Co.)

Tex., Dallas.—Cotton Cleaner.—Dixon Cotton Cleaner Co. of Texas, capital stock \$2000, incorporated by C. W. Sequin, M. E. Cannon and H. H. Watson.

Tex., San Antonio.—Pumps.—International Irrigation & Manufacturing Co., capital stock \$50,000, incorporated by F. O. Dehymel, M. C. Shiner and G. H. Shiner to manufacture pumps.

GAS AND OIL ENTERPRISES

Ark., Little Rock.—Hempstead Oil & Gas Co., capital stock \$25,000, incorporated; H. E. Bemis, president; O. H. Helbig, vice-president; L. P. Biedelman, secretary-treasurer.

Ky., West Liberty.—Liberty Oil Co., capital stock \$250,000, incorporated by John J. Chester, Edward E. Floyd and F. L. Chase.

La., Jennings.—Southern Heat & Light Co. will build \$10,000 addition to gas plant.

La., New Orleans.—Balkan Oil Co., capital

stock \$10,000, incorporated by J. P. Schaeffer, F. Rouge and J. B. Eiseman.

Okla., Chickasha.—Grady County Commissioners granted right of way to Southwestern Oklahoma Gas & Fuel Co. of Bartlesville, Okla., for pipe line connecting Duncan gas wells with Chickasha. George M. Baer, manager Duncan Field, will establish offices in Chickasha.

Okla., Enid.—Enid National Oil Co., capital stock \$10,000, incorporated by O. A. Triplett and Karl Kruse of Enid, C. R. Jones, T. C. Hamilton and E. A. Wharton of Blackwell, Okla.

Okla., Hobart.—Oil Sand Oil Co., capital stock \$2000, incorporated by E. L. Barney and H. B. Ash of Hobart and M. F. Price of Gotebo, Okla.

Okla., Muskogee.—Berton Oil Co., capital stock \$10,000, incorporated by W. E. Disney and J. F. Frishman of Muskogee, and E. A. Hill of Fort Gibson, Okla.

Okla., Muskogee.—Travelers' Oil Co., capital stock \$50,000, incorporated by W. L. Hughes and L. B. Martin of Muskogee and J. F. Walls of Oklahoma City, Okla.

Okla., Muskogee.—Bartlett Oil Co., capital stock \$5000, incorporated by A. W. Culp, L. Wheeler and C. A. Cowper.

Okla., Muskogee.—Bason Oil Co., capital stock \$25,000, incorporated by Francis Jordan and N. A. Weems of Haskell, Okla., and F. C. Bell and F. S. Williams of Baldwin, Kans.

Okla., Oklahoma City.—Opportunity Oil & Gas Co., capital stock \$10,000, incorporated by C. O. Fowler, Dudley Ellis and D. H. Evans.

Okla., Oklahoma City.—Home Oil Co., capital stock \$8000, incorporated by Ralph W. Day, John W. Choate and W. N. Hayes.

Okla., Oklahoma City.—New Pouchontas Oil & Gas Co., capital stock \$10,000, incorporated by O. G. Kiskaddon, Tulsa, Okla.; S. Kelly and George F. Black, Oklahoma City.

Okla., Oklahoma City.—Oklahoma Oil & Realty Co., capital stock \$5000, incorporated by M. F. Owen, E. Hammond Jones and P. R. Mattocks.

Okla., Oklahoma City.—Oklahoma City Southwestern Oil & Gas Co., capital \$4000, incorporated by J. S. Ross, A. B. Potter, C. R. Roffer, C. F. Colcord and Paul Westfall.

Okla., Shawnee.—Seven Oil Co., capital stock \$3500, incorporated by D. N. Bell, R. A. Hoff, D. P. Jacobs and Roy Wood.

Okla., Tulsa.—Trend Oil Co., capital stock \$10,000, incorporated by George T. Brown, C. J. Wrightsman and E. Wrightsman.

Okla., Tulsa.—Skinner Oil Co., capital stock \$9100, incorporated by James A. Veasey of Tulsa, E. B. Skinner of Colorado Springs, Col., and C. S. Downing of Kansas City, Mo.

Okla., Tulsa.—Bunch Oil Co., capital stock \$9000, incorporated by James A. Veasey of Tulsa, E. B. Skinner of Colorado Springs, Col., and C. S. Downing of Kansas City, Mo.

Okla., Tulsa.—Hudson Oil & Gas Co., capital stock \$50,000, incorporated by T. H. Williams and W. E. Hudson of Tulsa, and W. A. Stinson of Sapulpa, Okla.

Okla., Wewoka.—Kahn Oil Co., capital stock \$20,000, incorporated by George M. Swift of Wewoka, John R. Ware and J. C. Dickson of Oklahoma City, Okla.

S. C., Georgetown.—Gas Plant.—Georgetown Gas & Electric Co., capital stock \$100,000, incorporated by Clawson Bachman and James T. Hayden, both of Philadelphia, Pa.

Tenn., Knoxville.—Gulf Oil Co. (main office, Pittsburgh, Pa.) has plans, it is reported, for oil-distributing station; brick and concrete buildings; cost \$15,000; W. H. James, superintendent of construction. (Recently mentioned.)

Tex., Childress.—Riverside Oil & Development Co., capital stock \$10,000, incorporated by H. J. King, J. P. Fleming and C. E. Crews.

Tex., Dallas.—Dallas Company, capital stock \$5000, incorporated by W. M. Taylor, Towne Young and George W. F. Green.

Tex., Electra.—Ferris-Electra Oil Co., capital stock \$25,000, incorporated by T. G. Cole, R. H. Cook and L. T. Cross.

Tex., Houston.—Southern Pipe Line Co., capital stock \$20,000, incorporated by S. J. Hindman, W. E. Richard and G. W. Hindman; will build pipe line for products of company's wells in Goose Creek field.

W. Va., Huntington.—West Virginia Gas-coal Co., capital stock \$200,000, incorporated by A. B. Brode, Mary B. Hess, H. H. Baker, H. G. Bowles and Frank W. Irvin.

ICE AND COLD-STORAGE PLANTS

Ala., Citronelle.—Citronelle Light, Ice & Power Co., present address, Mobile, Ala.

(after July 1, Citronelle), purchased plant from Citronelle Planting Mill Co.; will remodel for ice and electric-light plant; daily capacity of ice plant, 10 tons. (See "Electric Plants and Machinery Wanted.")

Fla., Labelle.—E. E. Goodno contemplates doubling capacity of ice and electric-light plants; former has daily capacity of 10 tons.

Fla., Orlando.—J. B. Magruder contemplates building ice and cold-storage plant. (See "Hotels and Machinery Wanted.")

Ga., Augusta.—Atlantic Ice & Coal Co. will build plant to cost \$35,000.

Ga., Moultrie.—Chamber of Commerce will formulate plans for organization of company to establish cold-storage plant and abattoir.

La., Crowley.—City will not erect ice plant recently noted under consideration.

Va., Eastville.—Stanley Scott and associates contemplates building ice and electric-light plant.

Va., Exmore.—Company organized by Dr. J. T. B. Hyslop, J. W. Chandler and W. E. Walker.

Va., Franklin.—Reasley & Blandford, Portsmouth, Va., will build ice and cold-storage plant; daily capacity 15 tons.

IRON AND STEEL PLANTS

Ala., Fairfield.—Steel Wire, Rods, etc.—J. A. Farrell, president of United States Steel Corporation, New York, wires Manufacturers Record: "American Steel & Wire Co. is proceeding with construction of its wire plant; will complete and put it in operation as soon as possible." This continuation of construction decided this week by finance committee; probably require six months to complete buildings, install machinery, erect houses for employees, etc.; estimated cost of complete rod and wire mill, \$3,500,000. (Previously fully detailed.)

W. Va., Chester.—Sheet Mill.—American Sheet & Tin Plate Co., Frick Bldg., Pittsburgh, Pa., plans improvements to Chester plant, including installation of five additional mills, five annealing furnaces and four cold rooms; estimated cost \$65,000.

LAND DEVELOPMENTS

Ala., Birmingham.—Bandy-Mill Park Co., capital stock \$25,000, incorporated; will develop 25 acres as amusement park; build theaters, rinks, dance floors, etc.; J. V. Morris, president; E. M. Williams, vice-president; J. W. Cole, secretary-treasurer.

Ala., Marbury.—Marbury Lumber Co. is proceeding with colonization development of 42,000 acres cut-over land. (See "Lumber Manufacturing.")

Ala., Tuscaloosa.—W. H. Nicol (City Engineer), P. D. Brown and associates will develop 45 acres of Stillman Institute land as residential section.

Fla., Arcadia.—F. P. Hue advises from Warren, Pa., that Myacka Land Co. (recently noted as awarding railroad construction contract) and South Florida Land Co. do not anticipate development of timber lands in near future.

Fla., Atlantic Beach.—Atlantic Beach Corporation, Ernest R. Brackett, president, Jacksonville, Fla., increased capital stock to \$1,000,000; purchased about 4500 acres land fronting ocean beach for 4½ miles, and is proceeding with previous plans for developing as residential section; also purchased Atlantic Beach Hotel. (Recently reported incorporated with \$100,000 capital stock.)

Fla., Fort Myers.—Fort Myers Development Co., Atlanta, Ga., will develop 100 acres of land on McGregor Blvd.; Cliff Ansley, president; William S. Ansley, vice-president. (Recently noted incorporated with \$25,000 capital stock.)

Fla., Miami.—William Harrison, Earl A. Fonda and Mr. Miller will develop 80 acres land as residential suburb.

Fla., Tampa.—Ridgewood Development Co. (change of name), American National Bank Bldg., will be name of company recently noted incorporated as Riverside Improvement Co.; \$100,000 capital stock; will develop 180 acres within city limits; subdivision and park; shell roads; Howard Curry, president; Eugene Holtsinger, vice-president; J. Reed Curry, secretary-treasurer; W. L. Harwell, engineer in charge.

La., New Orleans.—Richlu Louisiana Land Co., capital stock \$50,000, incorporated; Gustaf Westfeldt, Jr., president; Frank M. Hart, secretary-treasurer.

La., Plaquemine.—Spiller Sugar Co., capital stock \$50,000, incorporated; will cultivate Eureka and Magnolia plantations and operate Eureka sugar-house; Thomas D. Spiller, president; E. B. Spiller, vice-president; A. W. Spiller, secretary-treasurer.

Mo., Kansas City.—Sul-A-Bar Farms, 4530 Kenwood Ave., will conduct 1200-acre cattle farm; I. R. Kirkwood, president; R. E. Stout, vice-president; A. P. Seested, treasurer. (Recently noted incorporated with \$100,000 capital stock.)

N. C., Charlotte.—Fabrik Development Co. (W. S. Lee, Thomas Gresham and others) will develop 100 acres land as suburb, providing both factory and residential sites; engaged C. G. Hubbell, civil engineer, Charlotte, to prepare topographic maps; awarded contract for opening and grading Cedar, West Morehead and West Palmer Sts.

N. C., Charlotte.—T. H. and Neal American of New York contemplate developing 500 acres Brushy Mountain land; proposed to divide into 20-acre tracts and erect dwellings.

N. C., Brevard.—Cagle Improvement Co. (recently noted incorporated, \$100,000 capital stock, by T. H. Shipman and others) contemplates land developments. Mr. Shipman advises as follows: He and associates purchased about 8000 acres timber land about four miles from Brevard; 20 miles of stream; probably develop water-power, and hunting and fishing club.

N. C., Southport.—Southport Residence Park Co., capital stock \$25,000, incorporated by J. J. Laughlin and E. E. Taylor of Southport, and Thomas E. Cooper of Wilmington, N. C.

North Carolina.—Carolina Farms Co., capital stock \$250,000, incorporated by F. R. Hansell of Philadelphia, Pa.; G. H. B. Martin and S. C. Seymour of Camden, N. J.

S. C., Charleston.—Wabona Corporation, capital stock \$4800, chartered; J. F. Walsh, president; Miguel Bofill, secretary-treasurer.

S. C., Spartanburg.—Oakhurst Development Co. will develop 15 acres of land one mile east of Spartanburg as residence section; C. O. Heaton, president; L. P. Epton, vice-president; J. Hertz Brown, secretary; W. W. Holland, treasurer. (Recently noted incorporated with \$10,000 capital stock.)

S. C., Spartanburg.—Carolina Realty Co., capital stock \$20,000, incorporated by A. B. Calvert, O. L. Johnson, R. E. Cudd and O. W. Leonard; will develop 10 acres for residential purposes; divide into 64 lots.

Tenn., Knoxville.—Kingson Pike Land Co., capital stock \$25,000, incorporated by A. W. Taylor, J. E. Lutz, V. D. Holloway and others.

Tex., Cranfills Gap.—Cranfills Gap Townsite & Development Co., incorporated with \$20,000 (not \$24,000, as recently stated) capital stock; W. T. Ferguson, president; G. O. Bronstad, vice-president; O. J. Colvick, secretary; W. Pitt Barnes, treasurer; will develop 280 acres of land for residence section; grade streets, etc.

Tex., Crowther.—S. A. Hopkins, 229 E. Houston St., San Antonio, Tex., advises that Texas Cotton Products Co. is proceeding with proposed development of 5000 acres land in McMullen county, near Crowther.

Tex., Houston.—Boulevard Land Co., capital stock \$10,000, incorporated by David Hannah, R. A. Welch and M. L. Buchanan.

Tex., Midland.—O. W. Kerr Company, 209 Andrus Bldg., Minneapolis, Minn., wires Manufacturers Record: "Outside capital purchased Nelson Morris ranch; 250,000 acres; approximately \$2,000,000; arranged with this company to take full handling of developing, subdividing into small farms, putting down wells and colonizing lands, with irrigation; desirable for mixed farming, corn, cotton, alfalfa, milo and raising stock." Land lies in Midland, Martin, Andrews and Ector counties.

Tex., Seguin.—Hamilton Townsite Co., capital stock \$30,000, organized to develop town on San Antonio, Uvalde & Gulf Railroad in Live Oak county; Thornton Hamilton, president, Cuero, Tex.; J. B. Dibrell, vice-president; C. E. Tips, treasurer, and Charles R. Tips, secretary-general manager.

Tex., Texhoma.—Tristate Land & Improvement Co., capital stock \$10,000, incorporated by J. L. Williams, L. E. Mason and Ed. C. Hyde.

Va., Richmond.—Boulevard Terrace Corporation, capital stock \$25,000; chartered; John T. Howe, president; H. Gary, vice-president; C. C. Walton, Jr., secretary-treasurer.

Va., Rosslyn.—South Arlington Cemetery Corporation, Ashton C. Jones, president, will develop 36 acres of land for cemetery; D. J. Howell & Son, engineer, Union Trust Bldg., Washington, D. C. (Capital \$12,000, and not \$50,000, as recently stated under Alexandria, Va.)

Va., Stuart.—Premium Orchard Co., capital \$50,000, incorporated; L. O. Miller, president, Richmond; J. C. Shockey, secretary-treasurer, Stuart, Va.

W. Va., Huntington.—Oak Ridge Villa Co., capital stock \$10,000, incorporated by C. W. Cammack, F. P. Swan, L. H. Cammack and others.

LUMBER MANUFACTURING

Ala., Dyas.—Dyas Mill Co., J. F. Garlich, secretary-treasurer, will operate sawmill; daily capacity 10,000 to 15,000 feet long-leaf pine; cost of machinery \$1600. (J. F. Garlich and Otto H. Gaebe recently noted as having organized company to build mill.)

Ala., Marbury.—Marbury Lumber Co., D. H. Marbury, president (recently noted to develop 42,000 acres), states is not operating mill at present; developing for colonization. (See "Land Developments.")

La., Lake Providence.—DeSha Lumber Co., Arkansas City, Ark., contemplates constructing band-saw mill; develop timber land; also propose building standard-gauge railroad.

La., Logansport.—Coleman Lumber Co. purchased several acres hardwood timber land and will build seven-foot band mill to manufacture hardwoods.

La., Mandeville.—Poitevant & Favre Lumber Co., New Orleans, La., advises further relative to construction of previously described sawmill plant: "Cost about \$250,000; ordinary mill construction; daily capacity 100,000 feet pine lumber; machinery bids opened July 1." (See "Machinery Wanted.")

La., New Orleans.—Kraus Bros. Lumber Co., capital stock \$300,000, incorporated by M. Kraus, A. J. Kraus, L. Kraus and J. G. Schwarzschild.

Miss., Clyde.—Lamar Lumber Co. will build three brick drykilns; awarded contract.

Okla., Roosevelt.—Home Lumber Co., capital stock \$10,000, incorporated by C. G. Simms and I. A. Simms of Roosevelt and E. L. Culver of Oklahoma City, Okla.

S. C., Beaufort.—Hilton-Dodge Lumber Co., Savannah, Ga., states plans for erecting mill near Beaufort are not definite. (Recently noted.)

Tenn., Big Sandy.—J. W. Hastings & Son open bids June 25 for rebuilding sawmill; 35x68 feet; mill construction; cost of machinery, \$1000; daily capacity, 10,000 feet of timber. (Recently reported burned.)

Tenn., Knoxville.—Riverside Lumber Co., capital stock \$50,000, incorporated by W. C. Ross, H. W. Sanford, W. H. Picklesner, B. A. Morton and C. H. Baker.

Tex., Broadus.—Boynton Bros. & Co., Logtown, Tex., purchased timber land in San Augustine county, and will build sawmill; daily capacity 45,000 feet.

Tex., Dallas.—Standard-Tilton Milling Co. (main office, St. Louis, Mo.) will build mill; plans being prepared; B. R. Neal, manager local plant.

Tex., El Paso.—Hines Lumber & Coal Co., capital stock \$20,000, incorporated by R. E. Hines, E. G. Hines and D. E. Gibson.

Tex., Fort Worth.—L. Simpson Lumber Co., capital stock \$10,000, incorporated by Louis Simpson, G. E. Beavers and Roger Barton.

Tex., Honey Island.—R. A. Myer Lumber Co., incorporated by Robert A. Myer (general sales manager Buckley Lumber Co.), Houston, Tex.; purchased lumber manufacturing plant and timber properties of Texas Lumber Manufacturing Co. at Honey Island, including saw and planing mill equipment with daily capacity of 60,000 feet and land estimated to contain 90,000,000 feet timber.

Tex., San Saba.—Riley Cedar Co., capital stock \$4500, incorporated by S. W. Rimmer, Joe P. Flack and A. P. Riley.

Tex., Tyler.—Palmer & Dean Lumber Co., capital stock \$25,000, incorporated by A. B. Palmers, F. P. Dean and W. J. Howell.

Va., Newsoms.—Southampton Lumber Co., capital \$15,000, incorporated; R. Howard, president; C. G. Thorp, vice-president; V. D. Thorp, secretary-treasurer.

METAL-WORKING PLANTS

N. C., Whitney.—Aluminum.—Southern Aluminum Co. awarded contract to Rinehart & Dennis Company, Charlottesville, Va., to construct two tunnels; 3000 feet long by 40 feet wide and 34 feet high; this construction in connection with Southern corporation's extensive hydro-electric development River and building aluminum works; Southern Aluminum Co. holds stockholders' meeting in New York on June 9 to vote upon increasing capital stock from \$6,400,000 to \$8,400,000 and issuing \$6,000,000 bonds. (Yadkin River power development, aluminum works, etc., recently fully detailed.)

MINING

Ala., Birmingham.—Oostanula Mining Co., capital stock \$2000, incorporated; A. J. Bow-

ron, president-treasurer; I. C. Beatty, vice-president; F. L. Bivings, secretary.

Ga., Sugar Valley.—Iron.—A. J. Bowron and I. T. Beattie, Birmingham, Ala., have leased about 1300 acres iron-ore land from Sugar Valley Brown Ore Mining Co.; purchasers will complete railway under construction to ore field and build modern mining plant to include steam shovels, washers, crushers, pumps, etc.; will use locomotive and tram cars.

Mo., Joplin.—Lead and Zinc.—Jasper-Newton Mining Co., capital stock \$10,000, incorporated by M. P. Borrowman, D. N. Friend and W. J. Owen.

Mo., Joplin.—Lead and Zinc.—Brooks & Co. will enlarge mining operations; probably install machinery.

N. C., Bakersville.—Mica.—Robert V. Wilson will develop mica deposits.

N. C., Charlotte.—Ballast Stone.—Atlantic Coast Line Railroad, E. B. Pleasants, chief engineer, Wilmington, N. C., purchased about 44 acres and will develop ballast stone deposits for use on railroad; contemplates erecting \$75,000 ballast plant.

N. C., Gastonia.—Sulphur.—Southern Sulphur Co. of Scranton, Pa., will develop sulphur mine in Pasour Mountain, Gaston county; will build mining plant; A. R. Kelly of Scranton, Pa., superintendent.

N. C., Regal.—Regal Marble Co. (telephone office, Murphy, N. C.), recently noted organized and as having acquired quarries and property, states will develop 130 acres of land; quarry mill and finishing plant; Wilson M. Hardy, president; Allard Momminger, vice-president. (See "Machinery Wanted.")

Tenn., Embreeville.—Zinc.—Embree Iron Co., C. P. Perin, president, 2 Rector St., New York, contemplates developing zinc deposits; has not formulated plans and will not at present formulate any.

Tex., Fort Worth.—Alvord Quarry & Construction Co., capital stock \$100,000, incorporated by C. P. Bardin, J. T. Hughs and W. L. Gee.

Tex., Houston.—Gravel.—McLelland Gravel Co., capital stock \$40,000, incorporated by W. C. McLelland, H. W. Bishop and John E. Bishop, Jr.

Tex., Waco.—Sand and Gravel.—Texas Sand & Gravel Co., capital stock \$5000, incorporated by T. J. Palm, H. C. Black and W. C. Rettiger.

Va., Luray.—Ochre.—Stanley Ochre Co. will erect building; two stories and basement; 40x60 feet; concrete; awarded contract for concrete work to Herbert Coffman.

W. Va., Moundsville.—Sand.—Sharp Sand Co., capital stock \$10,000, incorporated by Thomas Scott, W. G. Grodes, S. W. Booher, James T. Miller and Virginia B. Miller.

MISCELLANEOUS CONSTRUCTION

Fla., Tampa.—Docks, etc.—Seaboard Air Line Railway, W. R. Faucett, chief engineer, Portsmouth, Va., will extend docks and bulkhead about 550 feet south, dredge basin for anchoring vessels to depth of 24 feet water at mean low tide, etc., in connection with plan to build phosphate elevator. (See "Miscellaneous Enterprises.")

La., Shreveport.—Levee.—For bank protection work on Red River by Caddo Levee Board (contract previously noted awarded), Doullut & Williams, contractors (main office in Maison Blanche, New Orleans, La.), are asking bids on various material; this work extends to 50 miles above and 50 miles below Shreveport; sinking of sub-aqueous wood mats, bank construction, etc., were described in April; cost \$500,000, probably to be increased to \$1,000,000 later. (See "Machinery Wanted.")

La., New Orleans.—Levee.—State Board of Engineers, New Orleans Court Bldg., will let contracts June 9 for closing Van Cluse crevasse, requiring filling in of 225,000 cubic yards of earth.

Md., Annapolis.—Bulkhead.—Government will construct timber bulkhead and wharf; proposals received until June 14; amount available, \$7500; William M. Smith, acting chief, Bureau of Yards and Docks, Navy Department, Washington, D. C. (See "Machinery Wanted.")

Md., Annapolis.—Government will construct concrete seawall at Naval Engineering Experiment Station; proposals received until June 21; Wm. M. Smith, acting Chief, Bureau of Yards and Docks, Navy Department, Washington, D. C. (See "Machinery Wanted.")

Miss., Greenville.—Levees.—Mississippi Levee District, main office at Greenville, C. R. Smith of Cleveland, Miss., president of board, plans issuing \$3,000,000 bonds for levee

construction; Legislature holds special session on June 19 to authorize issuance. (Recently noted.)

Miss., Vicksburg—Levee.—Third Mississippi Levee District, Major J. A. Woodruff, engineer, is preparing plans for closing Skipwith crevasse damaged during recent floods; requires levee about 9000 feet long, with average height of 19 feet, and about 650,000 cubic yards of earth.

S. C., Columbia—Heating Plant.—Trustees University of South Carolina awarded contract to W. B. Guimarin & Co. of Columbia at \$14,322 to install central steam-heating plant.

Tenn., Chattanooga—Tunnel.—Hamilton County Commissioners will complete Missionary Ridge tunnel, recently noted; work includes repairing and replacing defective concrete and brick work in walls and arch of tunnel; construction of storm-water sewer, draining territory at east end of tunnel; for paving tunnel with concrete roadway with one track for electric railway and with concrete roadway with tracks; L. B. Bryan, County Engineer, Room 21 Municipal Bldg.; bids received until May 31. (See "Machinery Wanted.")

Tenn., Memphis—Levees.—In next 30 to 60 days bids will be received for levee construction along Mississippi River between Cairo and White River, to extent of about \$800,000 worth of work, to be performed in several contracts running from 6 to 18 months. It is possible that work of similar character, during 1914 and thereafter for number of years, will be let to extent of several million dollars per year. Work consists of levee construction along customary lines, and (although heretofore performed by teams) it is highly desirable that machine work as well as team work should be encouraged by reason of largely-increased quantities likely to be involved and fact that work will probably be let in continuous stretches of many miles. Heretofore animal labor has necessarily been used almost exclusively, by reason of non-continuity of work, involving expense in moving machine equipment from place to place. Ransdell bill (now before Congress) contemplates \$12,000,000 annual expenditure for levees for five years, beginning in 1914. Contractors are invited to visit Mississippi Valley and learn conditions, preparatory to developing suitable machinery, bidding, etc. Mississippi River Commission First and Second Districts, United States Engineer Office, Custom-house, will be in charge.

Tenn., Memphis—Flood Protection.—City authorities adopted general plans for protection of North Memphis from floods; plans include levee along Front St. or as near as possible to edge of Wolf River; flood gates at mouth of Bayou Gayoso; culvert along Huling Ave. to carry rainwater of Bayou Gayoso directly to river; culvert along Gayoso Ave. from point in vicinity of Wellington St. and Gayoso Ave. to Mississippi River to carry rainwater of Bayou Gayoso and Bayou De Soto under Gayoso Ave. direct to river; culvert along Keel Ave. to river to divert water from north of present pumping plant direct to Wolf River; pumping station at Front St. and Bayou Gayoso with sufficient reservoir capacity to lift remaining waters of Bayou Gayoso and whole discharge of Bayou Quimby and Sophia Bayou over levee while flood gates are closed; area designed to protect comprises 180 acres east of Front St.; election May 29 to vote on \$1,500,000 bond issue; J. H. Weatherford, City Engineer. (Recently mentioned.)

Tex., Port Aransas—Wharf and Bulkhead.—City will build wharf and bulkhead at foot of Alister St. Address The Mayor.

MISCELLANEOUS ENTERPRISES

Fla., Lakeland—Laundry.—B. F. Sullivan is interested in contemplated establishment of laundry. (See "Machinery Wanted.")

Fla., St. Petersburg—Amusement Park.—City Council contemplates building amusement park to include bathhouse, skating rink, dancing pavilion, etc.; instructed City Clerk to advertise for bids for bathhouse to cost about \$3000; M. W. Spencer, City Engineer.

Fla., Tampa—Phosphate Elevator, etc.—Seaboard Air Line Railway, W. D. Faucett, chief engineer, Portsmouth, Va., will build phosphate elevator on Seddon Island, extend docks and bulkhead about 550 feet south, improve and increase trackage facilities, extend and enlarge basin for anchoring vessels, and dredge to provide 24 feet water; elevator will be steel frame structure, 37x37 feet, and 90 feet high; all stories to be open steel frame work, except second and top stories, which will be enclosed with galvanized-iron siding; foundation, creosoted

framing on creosoted piles; prepared roofing; two noiseless conveyors to load into vessels through two spouts on water side; each conveyor to have capacity of 300 tons per hour; elevator to be used entirely for loading ships from cars, and will contain no storage space; elevator to be supplied by cars drawn up inclined trestle approach by hoisting engine; estimated expenditure, \$80,000 to \$100,000.

Ky., Midway—Grain Elevator.—Cogar, Rumley & Co. will build grain elevator; capacity 20,000 bushels; install power and conveying equipment; awarded contract for building.

Md., Baltimore—Paving.—Baltimore Asphalt Block & Tiling Co., capital stock \$54,000, incorporated with Edward E. Coonan, president; W. Bernard Duke and E. McC. Rouzer, vice-presidents; Mr. Coonan, engineer in charge; will contract for paving; leased plant (Monroe and Lorman Sts.) of F. E. Schneider Paving Co.; office at 231 Courtland St.

N. C., Greenville—Tobacco.—E. B. Ficklen Tobacco Co., capital stock \$50,000, incorporated by E. B. Ficklen and A. M. Moseley of Greenville and L. N. Dillbrell of Durham, N. C.

N. C., Stoneville—Bottling.—Ellington Mineral Water Co. will operate mineral ginger ale bottling plant. (See "Machinery Wanted.")

N. C., Stovall—Nurseries.—Howard Nursery Co. (recently noted incorporated) will develop 600 acres six miles from Stovall; capital stock \$10,000, to be increased as needed; Sam C. Howard, president; Chas. L. Howard, vice-president; I. N. Howard, secretary-treasurer. (See "Machinery Wanted.")

Okla., Oklahoma City—Dairy.—Belle Isle Dairy, capital stock \$5000, incorporated by A. H. Classen, J. H. Leavitt and Fred S. Combs.

Okla., Bartlesville—Incinerator.—City votes June 24 on \$7500 bond issue for incinerator plant; C. A. Samm, Mayor.

Okla., Wagoner—Publishing.—Record Publishing Co., capital stock \$2000, incorporated by S. S. Cobb, Edith B. Foster and George H. Foster.

S. C., Lancaster—Builders' Supplies.—Builders' Supply Co., capital stock \$10,000, incorporated by W. T. Gregory, W. F. Harper, H. G. Gregory and D. E. Bowers.

Tex., Dallas—Builders' Supplies.—Dallas Builders' Supply Co., capital stock \$50,000, incorporated by J. R. Neece, J. R. Neece, Jr., and L. A. Painter.

Tex., Fort Worth—Blueprints.—Western Blueprint Co., capital stock \$5000, incorporated by T. C. McFarland, B. M. Harding and Thomas F. Hodge.

Tex., Fort Worth—Grain Elevator.—Texas Grain & Elevator Co., capital stock \$20,000, incorporated by E. M., J. B. and G. H. Rogers.

Va., Norfolk—Publishing.—Ledger-Dispatch Publishing Co. awarded contract to J. H. Pierce & Son of Norfolk at \$16,324 to erect two-story addition to Carpenter Bldg.; install presses, typesetting machinery, etc. (Recently mentioned.)

Va., St. Paul—Grain Elevators.—Carolina, Clinchfield & Ohio Railway, Ward Crosby, chief engineer, Johnson City, Tenn., contemplates, it is reported, building grain elevators and warehouses.

W. Va., Grafton—Dairy.—Grafton Dairy Co., capital stock \$3000, incorporated by A. K. Miller, J. A. Waugh, T. K. Miller and others.

W. Va., Huntington—Contracting.—Harrison & Dean, 322½ 9th St. (recently noted incorporated, \$25,000 capital stock), will contract for railroad construction and street paving.

W. Va., Huntington—Contracting.—Boxley Bros., capital stock \$25,000, incorporated by J. E. Biscoe, F. W. Biggs, N. M. Murphy, J. T. Trorger and J. C. Miller.

W. Va., Huntington—Concrete Contracting.—Virginia Concrete Co., capital stock \$5000, incorporated by J. E. Biscoe, T. W. Riggs, N. W. Murphy and others.

MISCELLANEOUS FACTORIES

Ala., Birmingham—Bottling.—Crown City Bottling Syrup Co. will erect two-story brick building; cost \$7500; day labor.

Ala., Birmingham—Syrup.—Co-operative Syrup & Manufacturing Co., 615 Brown-Marx Bldg., contemplates increasing capital stock to \$1,000,000 and changing name to Lino Soft Drink Co. of Alabama.

Ala., Mobile—Regulation Door Check.—National Door Check Co. organized with \$20,000 capital stock by C. H. Gibbs, J. F. Durham

and W. T. McGowan; will manufacture light screen door air-cushion check.

Ala., Mobile—Automobile Accessories.—John W. Marston, Jr., organized company to manufacture automobile accessories, including patented mud shoe.

Ala., Mobile—Pine Products.—Company organized by Martin Van Heuvel, C. S. Stanton and H. C. Logan with \$10,000 capital stock; will install new system of Pine product reduction based on series of patents held by Mr. Stanton.

Ark., Camden—Door and Window Screens, etc.—Rockwell Manufacturing Co., capital stock \$50,000, incorporated by J. F. Judd, W. W. Brown, B. C. Rockwell and T. J. Gaughan.

Fla., Kissimmee—Palmetto Fiber.—Tropic Palmetto Fiber Co., capital stock \$250,000, incorporated with Edwin M. Lee president and Harvey B. Stout, Jr., secretary-treasurer, both of Indianapolis, Ind.; plans establishment of plant in Florida to extract fiber from saw palmetto; also proposes establishing warehouse in Indianapolis with Mr. Stout in charge.

Ky., Lexington—Mail Delivery Device.—Tudor Railway Mail Delivery Co., capital \$100,000, incorporated by J. H. Tudor, W. A. McDowell and Bailey D. Berry to manufacture railway mail delivery device.

Ky., Louisville—Bottling.—Wright & Taylor will install bottling plant in six-story reinforced concrete warehouse to be erected; three electric elevators, two for freight and one for passengers; plans by Brinton B. Davis of Louisville.

Ky., Shelbyville—Condensed Milk.—H. G. Carter of Louisville, Ky., is promoting establishment of condensed milk plant; daily capacity 60,000 pounds milk; cost \$50,000.

La., New Orleans—Sweeping Compounds and Disinfectants.—Cedar Pulp Co., 1068 Magazine St., incorporated with \$25,000 capital stock; T. Goldman, president; H. Edwards, vice-president; A. Cogenheim, secretary-treasurer. (Recently incompletely noted.)

La., New Orleans—Refrigerators.—Gulf States Vacuum Refrigerator Co., capital stock \$50,000, incorporated; G. Douglas Warriner, president; Henry Leverich, vice-president-secretary-treasurer.

La., Plaquemine—Sugar.—Spiller Sugar Co., capital stock \$50,000, incorporated; will cultivate Eureka and Magnolia plantations and operate Eureka sugar-house; Thomas D. Spiller, president; E. B. Spiller, vice-president; A. W. Spiller, secretary-treasurer.

La., Pineland—Naval Stores.—Pineland Naval Stores Co. contemplates increasing capital stock and enlarging plant.

Md., Baltimore—Brooms.—Cosmopolitan Broom Co. states will rebuild by August 1 the plant recently reported burned; has temporary factory on Harford Rd. near old location.

Md., Baltimore—Mantels.—Joseph B. Dunn & Sons, 853 N. Howard St., purchased factory of Charles J. F. Steiner Mantel Co., Monument and 11th Sts., Canton; manufactures marble and slate mantels and tile.

Md., Baltimore—Bakery.—Charles E. Meade, 1107-1115 Alsquith St., will build addition to bakery; 94x129 feet; mill construction; cost \$10,000; plans by C. D. Cooley, Pittsburgh, Pa.; use for shipping, etc.; contract awarded to John H. Kelly, 1124 Harford Ave., Baltimore.

Md., North East—Boats.—Reeder-Alexander Boat Building Co. incorporated with Robert C. Reeder secretary-treasurer; C. E. Reeder, manager; will build and repair boats.

Miss., Macon—Creamery.—Macon Creamery Co., capital stock \$10,000, incorporated by E. V. Yates, Gus McLeod, E. B. Owen and others.

Mo., St. Louis—Building Lath.—George P. Crumbaugh, 5125 N. 2d St., states company will be organized to establish plant (recently noted) to manufacture patented fireproof and vermin-proof building lath; daily capacity, 5000 square yards; install machinery to cost \$10,000; bids opened June 15; E. W. Grove, Sr., president; George P. Crumbaugh, vice-president. (See "Machinery Wanted.")

Mo., St. Louis—Hats.—St. Louis Hat Manufacturing Co., capital stock \$2100, incorporated by Herman S. Shapiro, William H. Hopkins, William E. Hunz and others.

N. C., Charlotte—Bottling.—Vira-Cola Co., capital stock \$100,000, incorporated by H. M. Wade, Lambert Kuhn and Thomas W. Alexander; will build bottling plant.

N. C., Kinston—Tobacco.—Imperial Tobacco Co.'s addition to plant will be 175x70 feet; to be used for two drying machines, storage and cooper shop; one and two stories; composition and asbestos roof; con-

crete floor; construction begun. (Previously noted.)

N. C., Salisbury—Syrup.—Mint Cola Co., capital stock \$40,000, incorporated; H. A. Rouzer, president; H. B. Smith, vice-president; F. T. Patterson, manager; erect 30x75-foot two-story fireproof building; construction begun; machinery purchased; manufacture syrup.

N. C., Winston-Salem—Candy.—W. E. Barr leased building at 224 S. Main St.; will remodel and equip as candy factory.

Okla., Fort Gibson—Lime.—Grand River Lime Co. (P. J. Carey, W. N. Franklin and others), Muskogee, Okla., contemplates increasing daily capacity of lime works from 75 barrels to 200 barrels.

Tenn., Chattanooga—Medicine.—Lookout Medicine Co., capital stock \$5000, incorporated by George W. Colson, John A. Ball, Walter F. Hazlewood and others.

Tenn., Knoxville—Shoes.—Kreis-Keener Shoe Co., capital stock \$20,000, incorporated by J. A. Kreis, E. L. Keener, S. F. Kreis, Harmon Kreis and John W. Green.

Tenn., Nashville—Shoe Polish.—Tenna Specialty Co., capital stock \$10,000, organized by A. F. Rayner and others; will establish shoe polish factory.

Tenn., Nashville.—Southern Combustion Co., capital stock \$50,000, incorporated by N. H. Hill, E. P. Scales, J. H. Hill and T. J. Mooney.

Tex., Fort Stockton—Woodward Manufacturing Co., capital stock \$25,000, incorporated by M. L. Woodward, M. M. Woodward and Morgan Nussbaumer.

Tex., Pearsall—Ice Cream.—M. C. Wilmet and William Speer will install machinery to manufacture ice cream.

Tex., San Antonio—Mattresses.—Dahney White, president White Mattress Co., Tyler, Tex., states will begin installation of previously-noted mattress factory about August 1; arrange for site and buildings about June 10.

Tex., Terrell—Bakery, etc.—Kenneson Baking & Candy Co., capital stock \$10,000, incorporated by H. H. Kenneson, Mrs. C. L. Coleman and C. W. Miller.

W. Va., Clarksburg—Glass Reflectors, etc.—National Reflector Co., capital stock \$25,000, incorporated by Joseph J. Hoover, William Whitfield, E. E. McGalliard and others.

W. Va., Shinnston—Bottles and Tumblers.—Bartow Glass Co. will establish plant to manufacture bottles and tumblers.

Va., Winchester—Chemicals.—Alm-Kijo Chemical Co., capital stock \$50,000, incorporated; J. N. W. Funk, president; H. C. A. Funk, secretary-treasurer.

W. Va., Charleston—Polishes.—Chieftain Manufacturing Co., capital stock \$25,000, incorporated; O. F. Payne, president; George E. Thomas, vice-president; W. E. Wright, secretary-treasurer; will use building formerly used by Carbon Products Co.

MOTORS AND GARAGES

Ala., Birmingham—Garage.—Hubert Drennon purchased site, 180x200 feet, and will probably erect addition to Drennon Motor Car Co.'s garage.

Ga., Dalton—Garage.—L. H. Crawford awarded contract to J. L. Wallace to erect building; three stories; brick; plate-glass front; 30x100 feet; cost \$5000; first and second floors for automobiles.

Md., Baltimore—Garage.—Standard Motor Co., 16 W. Mt. Royal Ave., awarded contract to M. C. Davis, Builders' Exchange, Baltimore, to convert building on N. Eutaw St. into auto service station for Cadillac automobiles; 100x150 feet. (Recently noted.)

Miss., Sumner—Garage.—Simpson & Webb will erect brick building to be used as garage and automobile repository by Sumner Auto Co.

Mo., Carthage—Garage.—R. M. Sloan and associates are having plans prepared for one or two-story structure to replace burned Sloan-Aylor Bldg.; to be occupied by Ziller & Grieb garage.

Mo., Kansas City.—Kansas City Automobile Co., 1309 Walnut St., contemplates erecting garage; two stories; 12x100 feet; reinforced concrete; capacity 200 cars.

Mo., Neosho—Automobiles.—Neosho Auto Co., A. C. McGinty, president (recently noted incorporated, \$2500 capital stock), will erect 67x87-foot ordinary-construction building; proposals opened June 1; install compressor, lathe, drills and emery wheels.

Mo., St. Louis—Automobiles.—Grand St. Louis Auto Co. incorporated by Leon B. and John J. Scherrer, Jr., E. A. Stosberg and A. W. Michaels; capital stock \$4000.

Mo., St. Louis—Automobiles.—A. B. Groves of St. Louis is preparing plans for automobile building.

Mo., St. Louis—Automobiles.—Holbrook-Blackwelder Real Estate Trust Co. will erect building to be leased to Bagnell Automobile Co., 4100 Olive St.; structure will be about 68x155 feet; three stories; fireproof; plans by Guy C. Mariner of St. Louis; contract awarded to John Hill Construction Co. of St. Louis.

Mo., St. Louis—Automobiles.—Grand St. Louis Auto Co., capital stock \$4000, incorporated by J. J. Scherer, E. A. Stosberg and Leon B. Scherer.

N. C., Red Springs—Automobiles.—Red Springs Motor Co., capital stock \$10,000, incorporated by John Thrower, William Jones and others.

Okl., Bartlesville—Automobile Repairing. Auto Repair Co., capital \$2500, incorporated by T. P. Fisher, John H. Brennan and Wm. M. Davis.

S. C., Darlington—Garage.—J. Monroe Spears will erect brick building, 50x150 feet, to be occupied as garage.

S. C., Rock Hill—Automobiles.—Carolina Machine Co., capital stock \$2000, incorporated by T. C. Branson and E. E. Boone.

Tex., Dallas—Garage.—M. Dinkelspeel, 20 Cedar Springs Rd., has plans by and let contract to W. N. Boyd to erect recently-noted brick garage; 31x105 feet; cost \$4000.

Va., Richmond—Automobiles.—Alsop Motor Co., capital \$20,000, incorporated; J. B. Alsop, president and treasurer; C. Armentrout, secretary.

W. Va., Wheeling—Automobiles.—Union Automobile Co., capital stock \$25,000, incorporated by A. C. Shaffer, Albert W. Schenk, George P. Falman and others.

RAILWAY SHOPS, TERMINALS, ROUNDHOUSES, ETC.

Ga., Savannah.—Brinson Railway Co., Richard Morgan, general manager, will probably remove shops from Springfield to Savannah at early date; will enlarge shops and build on modern plans; expend \$1,000,000 for these and various other betterments. (See "Machinery Wanted.")

Mo., Kansas City.—Kansas City Terminal Co., John V. Hanna, chief engineer, Kansas City, will build two roundhouses, one to be 440 feet in diameter and accommodate 53 engines. (This is in connection with extensive terminal facilities, union station, etc., previously detailed.)

ROAD AND STREET WORK

Ala., Anniston.—Calhoun county will grade, drain and surface with macadam about 1½ miles of Piedmont and Jacksonville Rd.; expenditure \$4000; W. S. Keller, State Highway Engineer, Montgomery, Ala.; bids received until June 28. (See "Machinery Wanted.")

Ala., Birmingham.—Jefferson county will macadamize part of old Stouts Rd. at about thirteenth milepost; expenditure \$4000; bids received until June 27; W. S. Keller, State Highway Engineer, Montgomery, Ala.; (See "Machinery Wanted.")

Ala., Gadsden.—City will pave Walnut St. from 5th to 12th St.; cost \$32,312. Address The Mayor.

Ala., Georgiana.—Butler county will grade and surface with sand-clay a portion of Milner Mill Rd.; expend \$10,000; bids received until June 25; W. S. Keller, State Highway Engineer, Montgomery, Ala.; (See "Machinery Wanted.")

Ala., Hayneville.—Lowndes county will grade about seven miles road; cost \$8000; bids received by Board of Revenue until June 16; W. S. Keller, State Highway Engineer, Montgomery, Ala. (See "Machinery Wanted.")

Ala., Jasper.—Walker County Commissioners will improve road to be county's portion of Birmingham-Jasper highway to extend from Jasper to Sander's Ferry; estimated cost, \$20,000.

Ala., Russellville.—Franklin county defeated \$125,000 bond issue for road construction. Address County Commissioners. (Recently mentioned.)

Ala., Linden.—Marengo county will grade, drain and surface about four miles road; expenditure \$7000; bids received until June 24; W. S. Keller, State Highway Engineer, Montgomery, Ala. (See "Machinery Wanted.")

Ala., Rockford.—Coosa county will grade, drain and surface with topsoil part of Kellyton and Rockford road; expenditure \$4000; bids received by Court of County Commissioners until June 4; W. S. Keller, State

Highway Engineer, Montgomery, Ala. (See "Machinery Wanted.")

Ala., Mobile.—City, H. Pillans, commissioner in charge, awarded contract to E. J. Raub & Co., Mobile, for construction of cement floor for municipal steel sheds; \$5000 appropriation; Wright Smith, City Engineer.

Ala., Montgomery.—Montgomery County Commissioners awarded contract to J. F. Giddens to grade and gravel seven miles of Hamer-Grady Rd. (Call for bids lately noted.)

Ala., Montgomery.—Montgomery County Board of Revenue invites bids for grading and graveling three miles of Macon County Rd., Sprague Junction Rd. and Fanning Hill Rd.; Thomas W. Edwards, County Engineer.

Ala., Montgomery.—Board of Revenue, Montgomery county, is asking bids, to be received until June 23, for grading and graveling three miles Macon county road, 4½ miles Sprague Junction road, 2½ miles Fanning's Mill road; Thos. H. Edwards, County Engineer. (See "Machinery Wanted.")

Fla., Jacksonville.—City will repair and pave portions of Adams and Main Sts. and Riverside Ave. with vitrified brick on sand base; Philip Prioleaus, City Engineer.

Fla., Pensacola.—City paving contract, recently noted awarded to W. P. Kennedy of Pensacola, comprises 22,000 square yards paving and 14,000 linear feet concrete curb; \$40,000 available; Geo. Rommel, Jr., engineer in charge. (See "Machinery Wanted.")

Fla., Sarasota.—City will pave streets with brick; \$15,000 bond issue authorized. Address The Mayor.

Fla., St. Augustine.—City awarded contract to Seth Perkins, Jr., to pave Carrera St. with asphalt macadam. (Recently noted.)

Fla., Tampa.—City will place 18,330 yards brick paving, including grading and curbing; invites bids until June 17 for following: Nebraska Ave., 26 feet wide, brick laid on edge, area 7000 square yards, curb 5300 linear feet; Tenth Avenue, 24 feet wide, brick laid flat, area 950 square yards, curb 810 linear feet; Fifteenth Ave., 24 feet wide, brick laid flat, area 1680 square yards, curb 730 linear feet; Eleventh Ave., 28 feet wide, brick laid flat, area 8100 square yards, curb 5300 linear feet; estimated total cost, \$29,328; Ralph Martin, City Engineer.

Fla., Tampa.—City will repair Seventh Ave.; brick, with asphalt joint filler; bids received until June 3; D. B. McKay, chairman Board of Commissioners. (See "Machinery Wanted.")

La., Baton Rouge.—Third Ward, East Baton Rouge parish, voted \$68,000 bond issue to construct gravel roads. Address Police Jury. (Recently mentioned.)

La., Baton Rouge.—Board of State Engineers, Highway Department, Room 104 New Orleans Court Bldg., New Orleans, La., will recrown and gravel public highway from city to Hope Villa, distance of about 14 miles; bids received until May 26; W. E. Atkinson, State Highway Engineer; city and East Baton Rouge parish recently noted as to vote May 27 on \$225,000 bond issue, \$90,000 of which to be expended for paved and graveled streets to connect with parish roads. (See "Machinery Wanted.")

La., Monroe.—City will vote on tax for street paving. Address Mayor Forsythe.

La., Shreveport.—Board of State Engineers, Highway Department, Room 104 New Orleans Court Bldg., New Orleans, La., will construct gravel highway, beginning 5.1 miles from city limits of Shreveport and extending to Keithville, La., distance of 5.8 miles; W. E. Atkinson, State Highway Engineer; bids received until June 2. (See "Machinery Wanted.")

Md., Baltimore.—Board of Awards awarded following contracts for street paving: Penn-Mar Construction Co., 612 Union Trust Bldg., Baltimore, at \$24,999.20, contract No. 108, Smallwood St., 9500 square yards, vitrified brick; same company, at \$13,930, No. 111, Fayette St., Fairmount Ave., Catherine and Shipley Sts., 6100 square yards, bituminous concrete; Eastern Paving Co., at \$13,192, No. 110, Augusta Ave., 5600 square yards, bituminous concrete. Board rejected bids for contract No. 109, Monroe St., 3000 square yards bituminous concrete. (Call for bids lately noted.)

Md., Baltimore.—City will grade, curb and pave following: Contract 115, Bernard St., about 3200 square yards bituminous concrete; contract 119, about 2800 square yards vitrified block; bids received until June 4; Eugene E. Grannan, president Commissioners for Opening Streets. (See "Machinery Wanted.")

Md., Baltimore.—Board of Awards let following contracts for street paving: J. H.

Cranford Construction Co. of New York, contract No. 112, portion of Hilton St., 6800 square yards; No. 113, portions of Forest Park Ave. and Kathland Ave., 4900 square yards; No. 114, Callaway Ave. and Cleveland Ave., 6130 square yards; No. 116, portion of Dukeland St., 5200 square yards; sheet asphalt and bituminous concrete paving to P. Flanagan & Son, 120 E. Lexington St., Baltimore; No. 106, portion of Westwood Ave., 7700 square yards with bituminous concrete. (Call for bids lately noted.)

Md., Loch Raven.—Emory Sudler, Division Engineer, Baltimore City Water Department, Gunpowder Supply Improvement Division, Knickerbocker Bldg., Baltimore, Md., states five miles of road will be constructed during 1913 in connection with proposed bridge at Loch Raven.

Miss., Grenada.—City proposes issuing \$25,000 of bonds to pave Public Square and 1st St. Address The Mayor.

Miss., Laurel.—Beat 2 of Jones county votes June 19 on \$50,000 bond issue for road construction. Address County Commissioners, Ellisville, Miss.

Miss., Magnolia.—Fourth Supervisors' District Pike county, Wm. M. McColgan of McComb City, one of officials in charge, will soon set date of opening bids for previously-noted road construction; about 60 miles graded gravel roads; Xavier A. Kramer, engineer, Magnolia.

Miss., Ripley.—Tippah county votes June 19 on \$20,000 bond issue for road improvements. Address County Commissioners.

Miss., Woodville.—Wilkinson county, L. Lewis, clerk, will begin road construction about July 1; probably \$12,000 available for road work and equipment.

Mo., Webster Grove.—City awarded contract for 3670 square yards Dolarway paving. Address The Mayor.

N. C., Farmville.—Farmville township of Pitt county votes July 29 on \$40,000 bond issue for road construction; W. L. McLawhon, chairman County Commissioners, Greenville, N. C.

N. C., Gastonia.—City awarded contract to A. H. Gulon of Charlotte, N. C., to construct 38,000 square yards concrete sidewalks; Thos. L. Craig, Mayor. (Call for bids lately noted.)

N. C., Greenville.—Greenville township of Pitt county votes July 29 on \$50,000 bond issue for road construction; W. L. McLawhon, chairman County Commissioners. (Date postponed from July 5, recently stated.)

N. C., Hendersonville.—Henderson County Commissioners have \$95,000 bond issue available for road construction; \$50,000 of issue to be expended in Hendersonville township and \$20,000 in Hoopers Creek township; remaining \$25,000 to be issued by county as a whole by authorization of Legislature. (Previously mentioned.)

N. C., Nebo.—Nebo township of McDowell county has, it is reported, voted \$10,000 bond issue for road construction. Address Township Commissioners.

N. C., Cullowhee.—Cullowhee township of Jackson county has \$20,000 bond issue available for road construction. Address Township Commissioners.

N. C., Webster.—Sylvia township will construct roads; \$50,000 available. Address A. J. Dills, Sylvia, N. C.

Okl., Tulsa.—City asks bids, to be received until June 3, for recently-noted paving on Independence, 9th, Haskell and Golden Sts.; bids received on asphalt, asphaltic concrete, etc., on concrete base; E. B. Cline, City Auditor. (See "Machinery Wanted.")

S. C., Columbia.—City paving contract, recently noted awarded to West Construction Co. of Chattanooga, Tenn., involves work amounting to about \$50,000; bids were opened in September, 1912; sheet asphalt paving on Laurel, Senate and Gervais Sts.; construction progressing; John McNeal, City Engineer.

Tenn., Benton.—James H. Williamson, chairman, Polk County Court, may be addressed relative to building pike roads for which \$250,000 bond issue was recently noted voted.

Tenn., Knoxville.—City will pave and otherwise improve Forest Ave., District No. 93, 4th to 9th Sts., recently noted; about 6650 square yards of paving; 3300 cubic yards of excavation; 4400 linear feet concrete curb; 800 linear feet storm sewer. District No. 96, White Ave. and 2d St., paving 1680 square yards; 700 cubic yards excavation; 1072 linear feet concrete curb. District No. 100, North Third Avenue from south side of Caswell St. to north side of Wells St., paving 3911 square yards; 1467 cubic yards excavation;

1594 cubic yards concrete curb; 300 linear feet storm sewer and other miscellaneous items; bids received until May 30; D. G. Leahy, Recorder. (See "Machinery Wanted.")

Tenn., Knoxville.—Knox County Road Commission awarded contract to T. L. Peters & Co. of Knoxville for grading and macadamizing Tillerytown Rd. from Central St. to Tillerytown; Commission also awarded contract at \$3000 for surfacing and macadamizing Millertown Rd. from Kinzel Creek.

Tenn., Memphis.—Shelby county will pave Country Club Rd., including portions of Central, Goodwyn and Railroad Aves.; County Commissioners receive bids until June 12; consider alternate proposals on asphaltic concrete, dolarway, brick and tar macadam paving. (See "Machinery Wanted.")

Tex., Angleton.—Brazoria county road districts, Commissioners' Court in charge, contemplates construction of hard surface, gravel and clay roads; \$500,000 available; previously noted. Address Commissioners' Court. (See "Machinery Wanted.")

Tex., Belton.—City contemplates voting on \$40,000 bond issue to pave and macadamize streets and public square. Address The Mayor.

Tex., Beaumont.—Jefferson county defeated \$500,000 bond issue for road construction; Fred R. Blanchette, County Engineer. (Recently mentioned.)

Tex., Corpus Christi.—City awarded contract to Texas Bitulithic Co., Dallas, Tex., for street paving; estimated cost, \$600,000.

Tex., Edinburg.—Hidalgo county votes June 18 on \$300,000 bond issue for road construction. Address County Commissioners.

Tex., Pilot Point.—City will construct street paving; cost \$12,000; work to begin about July 1. Address The Mayor. (Bonds previously noted voted.)

Tex., Sulphur Springs.—Hopkins county voted to issue bonds for road construction. Address County Commissioners.

Tex., Tyler.—Smith County Commissioners will vote July 8 on \$300,000 bond issue for road improvements. Address County Commissioners.

Tex., Wharton.—Wharton county will construct six or seven miles of dirt road, open and grade same between Bouldings and Lane City; Judge Bowen, County Judge; contractors invited to submit bids. (See "Machinery Wanted.")

Va., Jonesville.—Rocky Station and Rose Hill districts of Lee county vote June 24 on \$60,000 and \$16,000 bond issues, respectively, for road improvements. Address County Commissioners.

Va., Wise.—Wise County Supervisors ordered advertisement for road improvements in Gladeville and Richmond Magisterial District under \$200,000 bond issue previously reported voted; each district to receive \$130,000; plan to macadamize roads already graded.

W. Va., Parkersburg.—City has \$200,000 available for street and sewerage improvement; plans not made; B. F. Stewart, Jr., engineer in charge. (Bond issue of \$200,000 recently noted voted.)

SEWER CONSTRUCTION

Ala., Gadsden.—Gadsden Car Works will construct storm sewer through grounds of plant; length, 300 feet; interior dimensions, 6x8 feet; cost about \$6000; Gadsden Concrete Co. has contract.

Ark., Conway.—Commissioners Conway Sewer Improvement No. 1 will expend \$45,000 to construct sewer system to include 55,000 feet 8-inch, 8100 feet 10-inch, 1700 feet 12-inch and 3000 feet 15-inch pipe and 2 septic tanks; G. H. Burr, engineer in charge. (Recently noted to receive bids until June 5.)

Ga., Jefferson.—City contemplates installing sewer system, water-works and electric-light plant; information furnished by Sydney J. Nix, City Councilman.

La., Lafayette.—City engaged C. A. Reis to prepare plans for sewerage system; construct reservoirs; estimated cost \$100,000.

La., Monroe.—City will vote on tax for sewerage and subsurface drainage system. Address Mayor Forsythe.

La., New Iberia.—City will construct sewer system estimated to cost \$75,000. Address The Mayor.

Md., Baltimore.—City awarded contract to Middleton-Thompson Co., 515 Continental Bldg., Baltimore, at \$157,503, for construction of vitrified-pipe sewers, Sewerage Commission Sanitary Contract No. 111; sewers ranging from 8 to 24 inches; partly open cut, partly tunnel; to be completed in from 10 to 12 months; Chas. England, chairman, Sewerage Commission. (Bids recently noted.)

Md., Silver Spring.—Montgomery County Commissioners, Rockville, Md., will construct sewer system and water-works; cost \$30,000; propose to connect sewer with District of Columbia sewer at Takoma Park.

Miss., Tutwiler.—City votes June 2 on \$7500 bond issue to construct sewer system and purchase and construct water-works; D. W. Fite, Mayor. (Further facts lately noted.)

Mo., Herman.—City awarded contract to Tonkawa Construction Co., Tonkawa, Okla., to construct three miles lateral sewers; cost \$11,400; Burns & McDonnell, engineers, Scarritt Bldg., Kansas City, Mo. (Previously noted.)

N. C., Bessemer City.—City is arranging to construct sewer system. Address The Mayor.

N. C., Toisnot, P. O. Elm City.—Town voted \$10,000 bond issue for sewers and water-works; Clarence Winstead, Clerk. (Previously noted under Wilson, N. C.)

N. C., Weldon.—City has \$40,000 bond issue available for construction of sewer system and water-works; plans being prepared by W. C. Riddick of Raleigh, N. C.

Okla., Cushing.—City will construct sewer system; lay 3½ miles vitrified sewer pipe; awarded contract to Stokes Construction Co. of Oklahoma City, Okla. (See "Water-works.")

S. C., Walterboro.—City will construct recently-noted sewer system; cost \$12,000; four miles 8, 10 and 12-inch pipe, siphons, manholes, covers, etc.; bids opened July 1; engineer, J. Newton Johnston, Florence, S. C. (See "Machinery Wanted.")

Tex., Hamilton.—City will lay sewer mains for nine blocks in business portion of city and construct disposal plant; cost \$6000; McCombs Engineering Co. of Waco, Tex., engineer in charge. (Bond issue of \$6000 recently noted voted.)

Tex., Hillsboro.—City will vote on \$25,000 bond issue for sewer system and water-works. Address The Mayor.

Tex., Houston.—City, Ben Campbell, Mayor, will construct sewers, contract A: 1000 linear feet 42-inch, 1780 feet 84-inch, 1340 feet 102-inch and 4530 feet 108-inch sewer, with manholes, catch basins, etc.; bids received until January 16; Dan C. Smith, Jr., City Secretary. (See "Machinery Wanted.")

W. Va., Bluefield.—City will construct sanitary sewer line from end of present sewer in west end of city through town of Graham and to point on Bluestone River west thereof, distance of 6500 feet; sewer to be 15 inches in diameter; all joints to be laid in cement; J. T. Akers, auditor; bids received until June 13; recently noted as contemplating bond issue to complete sewer system. (See "Machinery Wanted.")

W. Va., Martinsburg.—City plans construction of sewer system; will vote on proposition after Council authorizes appropriation; estimated cost \$250,000; H. H. Emmert, chairman Sewerage Commission.

W. Va., Parkersburg.—City has \$300,000 available for sewerage and street improvements; plans not made; B. F. Stewart, Jr., engineer in charge. (Bond issue of \$200,000 recently noted voted.)

TELEPHONE SYSTEMS

Ga., Gay.—Gay Telephone & Telegraph Co., capital stock \$2000, incorporated by J. R. Gay, S. R. Williams, Roy Crouch, W. P. Estes and others; will construct telephone system five miles long.

N. C., Burlington.—Southern Bell Telephone & Telegraph Co. (main office Atlanta, Ga.) will install common battery switchboard and otherwise improve equipment in telephone exchange.

Okla., Reedling.—New State Telephone Co., capital stock \$3000, incorporated by L. G. Roles, E. W. Sibley and J. L. Van Valkenberg.

Tex., Bartlett.—Bartlett & Davilla Mutual Telephone Co., J. D. Bell, president (recently noted as having been granted franchise) will construct 10 miles of telephone line. (See "Machinery Wanted.")

Tex., Coleman.—West Texas Telephone Co. will improve telephone system; construct 400 feet 200-pair cable, install rural line equipment on switchboard, etc.; cost \$7000 to \$8000.

TEXTILE MILLS

Ala., Stevenson.—Cotton Yarns.—Stevenson Cotton Mills will add 400 twister and 200 spooler spindles; has awarded contract for this new machinery.

N. C., Durham.—Silk.—P. H. Anderson, Boston, Mass., is reported as planning to establish silk mill.

N. C., Cumberland.—Cotton Yarns.—Neer-on-sett Mills organized with J. Frederic Houston of Philadelphia, Pa., as president; Dexter Stevens, vice-president and general manager; acquired cotton-yarn mill of J. Frederic Houston & Co.; previous report as to plans for enlarging present mill and building additional mill were erroneous; has no such plans. (Previously reported incorporated with \$400,000 capital stock.)

N. C., Penrose.—Hosiery.—Calhoun Hosiery Co. (recently noted incorporated, \$25,000 capital stock) acquired plant of Penrose Manufacturing Co.; 68 knitting machines; daily capacity, 300 dozen pairs; J. G. Scrutchin, Jr., president and treasurer; F. P. Bacon, vice-president; W. L. Talley, secretary.

N. C., Siler City.—Cotton Yarns.—Hadley People's Manufacturing Co. will add three new spinning frames; has awarded contract

S. C., Lexington.—Print Cloth.—Saxe-Gotha Mills will add new cardroom machinery; has awarded contract.

S. C., Greenville.—Cotton Thread.—Greenville Thread Co. organized with Kerr Wilson president and J. B. Burgard secretary. (Recently reported incorporated with \$2500 capital stock.)

Tenn., Chattanooga.—Absorbent Cotton, etc.—Aseptic Cotton Products Co., incorporated with \$500,000 capital; purchased plant of Southern Aseptic Cotton Co. Robert T. Cameron, president of latter company, advises new company will consist of some of same officers with some new officers; will enlarge facilities; manufactures absorbent cotton, surgical gauze and bandages; contemplates erection of general bleachery; has, in general way, discussed construction of large hosiery mill, but has no definite plans. (Lately mentioned.)

WATER-POWER DEVELOPMENTS

N. C., Brevard.—Cagle Improvement Co. (T. H. Shipman and others) contemplates water-power development. (See "Land Developments.")

N. C., Burlington.—Piedmont Railway & Electric Co. will construct hydro-electric plant between Burlington and Graham to develop 3000 horse-power for transmission to operate lighting and railway systems at Burlington, Graham, Haw River, Mebane, Swepsonville, Elon College, and probably other cities; construction will include 10,000-gallon reservoir; machinery designed for ultimate capacity of 6000 horse-power; has awarded machinery contracts.

N. C., Maxton.—J. J. Kincaid will install hydro-electric plant near Maxton; plans to develop about 125 horse-power.

N. C., Winston-Salem.—Z. V. Taylor of Charlotte, N. C., president of Fries Manufacturing & Power Co., advises will equip power plant with new machinery throughout; contracted for six vertical turbines direct connected to 200-kilowatt 2300-volt umbrella-type generators; also provided for future installation of two additional units. (Recently noted as to enlarge plant, etc.)

S. C., Lockhart.—Lockhart Power Co. awarded dam contract, as lately stated; Willard, Boggs & Co., the contractors, Spartanburg, S. C., write to Manufacturers Record: "Dam will be rubble masonry approximately 1500 feet long, 20 feet at base, 10 feet on top and 14 feet high in spillway section; 28 feet high in sluice gate and bulkhead section; completion about June 1, 1914; cost approximately \$150,000." (Recently mentioned.)

Tenn., Shelbyville.—Duck River Power Co. will expend \$15,000 on recently-noted additional equipment; capacity 250 horse-power; machinery purchased; two water turbines and one generator; three-phase line to Shelbyville.

Tex., Austin.—Colorado River Power Co., E. C. Alexander, North Texas Bldg., Dallas, Tex., has filed on water rights section of Colorado River, preliminary to constructing hydro-electric plant 40 miles north of Austin. Mr. Alexander wires Manufacturers Record: "Later will write full details."

Tex., Denison.—Texas Power & Light Co., Dallas, Tex., has applied for franchise to build electric-lighting system; city votes June 21 on granting franchise; company is planning to construct hydro-electric plant on Red River north of Denison, provided franchise is granted.

Va., Clifton Forge.—Virginia-Western Power Co. incorporated with \$625,000 capital stock; W. G. Mathews, president of Virginia-Western Electric Co., writes to Manufacturers Record: "New corporation will consolidate our several properties; take over Virginia-Western Electric Co., Rockbridge Power Corporation, Covington Light & Power Co. and Buena Vista Light & Power Co.;

new company takes operating properties; contemplates transmission line extensions, additional enlargements and other hydro-electric and steam developments; proposed to have authorized issue of bonds \$1,500,000 for future developments; we own and control several water-power sites, and further developments will be determined later on."

Va., Falling Springs (not a postoffice).—Falling Springs Soluble Lime Co. will probably be name of company recently noted as Falling Springs Marl Co., T. M. Gathright of Covington, Va., interested; has purchased machinery. (See "Fertilizer Factories.")

WATER-WORKS

Ala., Gadsden.—Bellevue Highland Co. will open bids June 1 on previously noted 100,000-gallon standpipe on Lookout Mountain. Address Loui Hart. (See "Machinery Wanted.")

Ga., Colquitt.—City votes June 5 on \$5000 bond issue for water-works and school building. Address The Mayor.

Ga., Jefferson.—City contemplates installing water-works, sewerage and electric-light plants; information furnished by Sydney J. Nix, City Councilman.

Ky., Fulton.—City awarded contract to George Osborne at about \$3000 to lay about one mile of water mains.

Ky., Louisville.—Lincoln Water Co., capital stock \$5000, incorporated by Henry Mueller, Adolph Hoening and N. Hoening.

Mo., Maryville.—City will install following equipment in water-works plant; high-service compound condensing duplex direct-acting pump of 1,000,000 gallons capacity; two low-service horizontal split-case centrifugal pumps (directly connected to steam engine) of 1000 gallons per minute capacity each; boiler-feed pump; two pressure filters of 250,000 gallons capacity each; 4-kilowatt 120-volt direct-current generator directly connected to steam engine; 150-horse-power open feed-water heater and low concrete dam, gravity section. Board of Public Works receives bids at office of F. L. Flynt, superintendent of construction, until June 2; plans and specifications on file with Mr. Flynt, Maryville, and with Hiram Phillips, consulting engineer, St. Louis, Mo.; copies of specifications furnished by Mr. Flynt; recently mentioned. (See "Machinery Wanted.")

Md., Silver Spring.—Montgomery County Commissioners, Rockville, Md., will construct water-works and sewer system; cost \$30,000.

Miss., Hattiesburg.—City will expend \$7000 to extend water mains 2¼ miles; no bids; J. H. Putnam, City Engineer. (Recently noted.)

Miss., Richton.—City votes June 10 on \$10,000 bond issue for water-works. Address The Mayor.

Miss., Tutwiler.—City votes June 2 on \$7500 bond issue to construct and purchase water-works system and construct sewer system; D. W. Fite, Mayor. (Further facts lately noted.)

Mo., Hannibal.—City will vote July 1 on purchase of water-works for \$25,000. Address The Mayor.

Mo., St. Louis.—Board of Public Improvements awarded contract to Pittsburgh Filter Co., Pittsburgh, Pa., to install Chain of Rocks filtering equipment; will readvertise for bids in June for constructing intake tower, tunnel and screen chamber at Chain of Rocks pumping plant, Letting 10,895. (Call for bids lately noted.)

N. C., Bessemer City.—City is arranging to construct water-works. Address The Mayor.

N. C., Cherryville.—City, J. B. Houser, Mayor, will construct water-works; \$25,000 bond issue recently noted voted; 20x32-foot brick pumping station; electric-driven pumps; 500,000-gallon brick reservoir; 100,000-gallon steel tank; 100-foot tower; five miles pipe; 40 hydrants, valves, boxes, deep wells, etc.; open bids July 1; J. Newton Johnston, engineer, Florence, S. C. (See "Machinery Wanted.")

N. C., Toisnot, P. O. Elm City.—Town voted \$10,000 bond issue for water-works and sewers; Clarence Winstead, Clerk. (Previously noted under Wilson, N. C.)

N. C., Weldon.—City has \$40,000 bond issue available for construction of water-works and sewer system; also erect pumping station; plans being prepared by W. C. Riddick of Raleigh, N. C.

Okla., Cheyenne.—City awarded contract for construction of water-works reported to cost \$40,000. Address The Mayor.

Okla., Cushing.—City awarded contract to Stokes Construction Co. of Oklahoma City, Okla., to improve water-works and construct sewer system; lay 7½ miles cast-iron water

pipe and 3¼ miles vitrified sewer pipe; drill well; proposes to remove water tower to point northwest of present location, where gravity flow sufficient to throw water 200 feet in Cushing can be secured; estimated cost \$40,000. (City recently reported to have voted \$15,000 bond issue to drill well at Cimarron River and pipe water to city.)

Okla., Hinton.—City awarded contract to Don A. Tolbert, Ada, Okla., at \$25,917 to construct water-works and electric lighting systems; Benham Engineering Co., consulting and supervising engineers, 435 American National Bank Bldg., Oklahoma City, Okla. (Bids recently noted.)

S. C., Walterboro.—City, Dr. Ackerman, Mayor, will expend \$27,000 on water-works rebuilding recently noted; erect 20x32-foot brick pump-house; brick and concrete reservoir, 10x40-foot diameter; capacity of new plant 250 gallons per minute; four miles 4, 6 and 8-inch cast-iron pipe; 60,000-gallon steel tank; 85-foot tower; bids opened about July 1; J. Newton Johnston, engineer, Florence, S. C. (See "Machinery Wanted.")

Tenn., Johnson City.—City will construct one-mile pipe line from reservoir to Soldiers' Home; estimated cost \$7000. Address The Mayor.

Tenn., Nashville.—City votes June 5 on \$2,500,000 bond issue to construct reservoir and all necessary work in connection; Geo. W. Stainback, chairman Board of Public Works. (Recently noted to repair damaged reservoir.)

Tex., Hillsboro.—City will vote on \$25,000 bond issue for water-works and sewer system. Address The Mayor.

Tex., Jourdanton.—City is considering purchase of water-works; will probably vote on bond issue. Address The Mayor.

Va., Appalachia.—Clear Creek Water Co. will expend \$25,000 to construct water-works; pipe water from springs in mountains 300 feet above city; will require five miles 4, 6 and 10-inch pipes and 33 fireplugs; Frank Schofield of New Albany, Ind., engineer in charge; cost of fireplugs, \$30 a plug. (Recently noted.)

Va., Front Royal.—City receives bids until June 21 for construction of gravity mechanical filtration plant of 1,000,000 gallons daily capacity; Edwin V. Dunstan, engineer, 204 Southern Bldg., Washington, D. C. (See "Machinery Wanted.")

Va., Pulaski.—Norfolk & Western Railway, C. S. Churchill, chief engineer, Roanoke, Va., will build water tank with capacity 100,000 gallons; install pump electrically operated.

Va., Scottsville.—Town will expend \$6000 to complete water-works system; plans not definitely decided; proposals may be addressed to E. L. Fox. (Recently noted.)

Va., Wytheville.—City, Geo. S. Sexton, Mayor, votes June 24 on \$5000 bond issue to reline reservoir; work by city force. (Recently mentioned.)

WOODWORKING PLANTS

Md., Baltimore.—Wagons.—John C. Raum & Sons, 405-407 Sharp St., purchased site 66x136 feet, and will erect two-story building and equip as wagon factory; concrete flooring.

N. C., Fayetteville.—Woodworking.—T. S. Lucas contemplates erection of woodworking plant. (See "Machinery Wanted.")

N. C., Wilmington.—Staves.—Castle Hayne Stave Co., capital stock \$100,000, incorporated by Charles H. Keys, J. K. Wylie and John Freeman.

N. C., Winston-Salem.—Furniture.—Forsyth Dining Room Furniture Co. (J. A. Vance, Charles Siewers and others) awarded contract to Fogle Bros. Co. of Winston-Salem to build plant; main building 300x300 feet; mill construction; automatic sprinklers. (Recently mentioned.)

Tenn., Dyersburg.—Staves.—Fields-Henning Stave Co. organized; J. J. Fields, president; A. J. Henning, vice-president; J. G. Latta, secretary-treasurer; daily capacity 30,000 slack barrel staves; has plant. (Recently noted incorporated with \$6000 capital stock.)

Tenn., Harrison.—Spokes.—N. C. Blanchard Manufacturing Co., Crab Orchard, Tenn., will establish spoke factory.

Tenn., Memphis.—Staves.—J. J. Russell contemplates establishing mill to manufacture slack barrel staves.

Tex., Weatherford.—Clothes Pins.—Peerless Clothes Pin Co., capital stock \$25,000, incorporated by C. C. Littleton, E. A. Frantz and J. W. Cain.

Va., Suffolk.—Buggies.—Parker Manufacturing Co. has arranged to rebuild buggy factory; five-story 75x100-foot brick structure;

cost about \$12,000; sprinkler system; Burwell Riddick, building contractor. (Previously mentioned.)

BURNED

Ala., Birmingham.—J. L. Green's store at Zuni; loss several thousand dollars; Southern Bell Telephone Co.'s station.

Ala., Dynas.—J. E. Abercrombie's cotton gin; loss \$1500.

Ala., Linden.—B. M. Miller's residence; loss \$8000.

Ark., Morrilton.—Morrilton Light & Power Co.'s plant, estimated loss \$10,000; Independent Gin Co.'s plant.

Arkansas.—Wapanocca Outing Club's clubhouse in Crittenden county, Arkansas, J. P. Edrington, W. P. Halliday and J. C. Neely, members, all of Memphis, Tenn.

Ark., Heber Springs.—Sam Mortan, Sr.'s residence; loss \$3000.

D. C., Washington.—Stafford Apartments at 1709 Lanier Pl. N. W., owned by William H. Sholes; loss \$8000.

Fla., De Land.—J. W. Roseborough's residence; loss \$3500 to \$4000.

Ga., Tallapoosa.—W. L. Tumlin's buildings; F. L. McMabans buildings.

Ga., Savannah.—Seaboard Air Line Railway Co.'s warehouse on River St.; loss \$25,000; W. D. Faucett, chief engineer, Portsmouth, Va.

Ky., Falmouth.—George T. Browning's residence, store and barn.

Ky., Jackson.—Imperial Hotel on Broadway; loss \$5000.

Ky., Washington.—Residences of W. B. Lane, William Lane, Mrs. Mattie Allen and Mrs. Mina Nelson; total loss \$5000.

La., Donaldsonville.—Stable at 511 Railroad Ave., owned by A. A. Maginuis Land Co., New Orleans, La.; Aramis J. Melancon's residence; Jules Laundry's residence; total loss \$7000.

La., Shreveport.—Henry Rose Mercantile & Manufacturing Co.'s candy factory, mercantile building, etc.; estimated loss \$20,000.

Md., Baltimore.—Edwin Bennett Pottery Co.'s plant, Fleet and Eden Sts.

Md., Baltimore.—Chesapeake Oil Co.'s building for manufacture of paints and driers; estimated loss, \$10,000; address, Stockholm St. and Peach Al.

Md., Ellicott City.—Charles Mackinson's wheelwright shop.

Md., Elkton.—Mrs. James McIntyre's barn and outbuildings; loss about \$5000.

Md., Hagerstown.—W. A. Ford's garage; loss \$7000.

Miss., Bay Springs.—Mrs. J. E. Rogers' residence.

Miss., Carriere.—Elias Salks' store; Watson & Co.'s store.

Mo., Kansas City.—Kansas City Saddlery Co.'s building at 309 Delaware St.

Mo., Independence.—Casket factory owned by G. E. Erickson, 1116 W. Walnut St.; loss about \$5000.

Mo., Kansas City.—O'Dowd Furniture Co.'s store at 1115-21 Grand Ave.

Mo., Kirksville.—Willard Hotel; C. E. Bleakley's store; C. A. Robinson Mercantile Co.'s store; total loss, \$100,000.

N. C., Charlotte.—George A. Howell's cotton yarn mill; loss \$30,000.

N. C., Greensboro.—Buildings of Warner & Caddell and John A. Wright; loss \$8000.

N. C., Lexington.—Patterson Lumber Co.'s plant; loss about \$6000.

N. C., Mt. Holly.—Hutchinson & Davenport's cotton gin; estimated loss \$4000.

N. C., Wilmington.—Boys' Brigade building; loss \$5000.

S. C., Pageland.—Chesterfield & Lancaster Railroad's depot; B. H. Burroughs, general manager, Cheraw, S. C.

Tenn., Knoxville.—Lane House.

Tenn., Charlotte.—Patterson Grocery Co.'s store; buildings of W. J. Buffwall and B. F. Allison; B. F. Watts' store and dwelling; H. Weininger's store.

Tenn., Johnstown.—J. D. Eaves & Co.'s store; loss \$7000 to \$8000.

Va., Roanoke.—Roanoke Fair Association's exhibit building on Jefferson St., near entrance grounds; loss on building \$4000.

W. Va., Huntington.—George A. Flodding's building, occupied by Eaton Wall Paper Co.; total loss \$6000.

DAMAGED BY STORM

Tenn., Wolfe City.—J. A. Bogan's residence; loss \$5000.

BUILDING NEWS

BUILDINGS PROPOSED

APARTMENT-HOUSES

Ala., Birmingham.—Dr. John S. Gillespie will erect apartment-house at Highland Ave. and 20th St.; light-colored brick; four apartments of six rooms each; steam heat; cost \$30,000.

Ark., Jonesboro.—E. Less, Little Rock, Ark., and B. H. Berger, Jonesboro, will erect store and apartment building on Main St.

Fla., Jacksonville.—D. Rosenberg will erect two apartment-houses on Laura St.; two stories; frame; cost \$7000.

Fla., Jacksonville.—George E. Leonard will erect two two-story frame double apartment-houses on Walnut and Date Sts.; cost \$8000.

Fla., Miami.—D. G. Farr has plans for store and apartment building. (See "Stores.")

Ga., Atlanta.—Mrs. Ida A. Turner will erect two-story brick apartment-house at 48 W. Peachtree Pl.; cost \$3500.

Ga., Atlanta.—Ed Betts will erect two-story frame apartment-house at 190 Houston St.; cost \$3500.

Ga., Macon.—Nevaro Apartments Co. will be incorporated with \$100,000 capital stock by L. S. Dure, W. H. Beeks and E. E. Valentine.

La., Baton Rouge.—Mrs. Lydia C. Wickliffe will erect apartment-house; cost \$12,000.

La., New Orleans.—Consolidated Realty & Manufacturing Co. will erect duplex apartment-house on Napoleon Ave. near Freret St.

Miss., Gunnison.—H. Burta has plans by John Gaisford, Memphis, Tenn., for store and apartment building. (See "Stores.")

Mo., Kansas City.—Jones-Weaver Construction Co. will erect apartment-house at 4212-14 Robert Gillham Rd.; four stories; brick, stone and reinforced concrete; 15 apartments; cost \$32,500.

Mo., St. Louis.—H. B. Kruehl will erect two-story flat at 3006-08 Osage St.; cost \$6500.

Mo., St. Louis.—John Boylon will erect two-story flat at 4243 N. 20th St.; cost \$4500.

Mo., St. Louis.—Hassall Realty & Investment Co. will erect four apartment-houses at Von Versen and Limit Aves.; three stories; cost \$100,000.

Mo., St. Louis.—Otto Stifel will erect two-story store and tenement-house at 1626 Morgan St.; cost \$7500.

Mo., St. Louis.—J. Charles Mueller will erect two-story flat at 4210 Farlin St.; cost \$4500.

Mo., St. Louis.—Bush-Burns Realty Co., Robert A. Burns, president, is reported as interested in erection of apartment-house at Lafayette Ave. and Waverly Pl.; three stories; 24 apartments; cost \$100,000.

Mo., St. Louis.—Verwin Real Estate Co., E. C. Brown, secretary, Chicago, Ill., will erect five apartment-houses in Washington Heights, on Berlin, De Giverville, De Ballviere and McPherson Aves. and Westminster Pl.

Mo., St. Louis.—H. C. Koenig has plans by F. W. Koenig, 3545 Connecticut St., St. Louis, for building to contain five stores and eight apartments, 52x103 feet, and another apartment-house 56½x50 feet; ordinary construction; \$3000 steam-heating plant; \$1500 electric-light plant; granitoid roofing; cost \$55,000; will sublet contracts. (Recently noted.)

Mo., St. Louis.—Pierre Weil will erect apartment-house at 5839 Garfield St.; two stories; cost \$3500.

Mo., St. Louis.—J. W. Jones will erect two-story apartment-house at 2711 Sullivan St.; cost \$2000.

Mo., St. Louis.—Anna Oberle will erect apartment-house at 4216 Farlin St.; two stories; cost \$4500.

Mo., St. Louis.—A. J. McGowan will erect two-story flat at 5143 N. Market St.; cost \$1200.

Mo., St. Louis.—J. W. Roester will erect two-story flat at 3315-17 Union St.; cost \$4500.

Mo., St. Louis.—Po-Mo Realty Co. will erect three-story flat at 5847 Von Versen St.; cost \$9000.

Mo., St. Louis.—H. W. Hamilton will erect four two-story tenement-houses at 4323 to 4337 Sacramento St.; cost \$16,000.

Mo., St. Louis.—B. Burrell will erect two-story flat at 4258 Cote Brillante; cost \$4800.

Tenn., Chattanooga.—F. L. Riggs and Geo.

Hall will erect building for stores and apartments. (See "Stores.")

Tex., El Paso.—Cassidy & Adams, El Paso, are preparing plans for tenement-house at 6th and Hill Sts.; 46 rooms; brick; cost \$12,000.

Tex., Houston.—D. Lewis will erect two-story brick apartment-house; cost \$3000.

Va., Norfolk.—Commonwealth Land Corporation has plans by Arnold Eberhard & Son, Norfolk, for apartment-house; brick; three stories and basement; steam heat; cost \$30,000; construction superintended by Tillar L'Anson of Mason & L'Anson.

Va., Petersburg.—A. T. Shepherd and Charles K. Bryant, Richmond, Va., prepared plans for apartment-house at Sycamore and Fillmore Sts.; five stories; exterior finish of pressed brick, terra-cotta and copper; fireproof; two electric elevators; 40 apartments; steam heat; ventilating system; cost \$100,000. (Pyle & Co., previously reported as financing company to erect apartment-house at above location.)

Va., Richmond.—George W. Lewis will erect two brick tenement-houses at 624-26 9th St.; cost \$3500.

W. Va., Huntington.—Bowen Davis & Co. have plans by A. F. Dickey for apartment-house; 75x90 feet; three stories; cost \$30,000. (Recently noted.)

ASSOCIATION AND FRATERNAL

Ga., Dalton.—L. H. Crawford will erect building on North Hamilton St.; three stories; lower floors, for garage and automobile salesroom; upper floor for lodge rooms for Dalton Lodge, Independent Order of Odd Fellows; cost \$5000.

Mo., St. Louis.—Order of Railroad Telegraphers, H. B. Perham, president, will, it is reported, erect building at 8th and Walnut Sts.; about 12 stories; several floors occupied by national officers of order; remainder for offices.

Okla., Purcell.—Benevolent Protective Order of Elks will erect lodge building.

Okla., Tulsa.—Lodge No. 414, Loyal Order of Moose, D. B. Crewson, secretary, 13 W. 3d St., will receive plans and specifications from architects for lodge building; 90x100 feet; four stories and basement; fireproof construction; three floors to have rolling partitions with stage; fourth floor to contain bedrooms and baths; cost \$80,000. (Recently noted.)

S. C., Spartanburg.—Young Men's Christian Association will erect building; four stories; probably mill construction; electric lighting; cost \$60,000; architect not selected. (Recently noted.)

Tex., Waco.—The Praetorians will erect lodge building at Franklin and 6th Sts.; seven stories, basement and roof garden; fireproof; 50x55 feet; cost \$150,000; C. B. Gardner, L. Blaylock, L. M. Dabney and others, committee. (Previously noted.)

Va., Petersburg.—Young Men's Christian Association rejected all bids to erect building; plans by Shattuck & Hussey, Chicago, Ill., and S. Daley Craig, Petersburg. (Recently noted.)

BANK AND OFFICE

Ala., Eclectic.—Bank of Eclectic will erect brick building.

Ala., Marion Junction.—Bank of Marion Junction, J. M. Donald, president, will erect brick bank building.

Fla., Jacksonville.—United States Trust & Savings Bank leased building at S. E. corner Forsyth and Laura Sts., and will convert into office building.

Ky., Hardinsburg.—Bank of Hardinsburg will rebuild bank; 23x90 feet; brick and concrete; bids opened at once. (Recently reported burned.)

Mo., St. Louis.—Order of Railroad Telegraphers, H. B. Perham, president, will, it is reported, erect building. (See "Association and Fraternal.")

S. C., Clinton.—Jacobs & Co. will award contract June 23 to remodel building for offices, including electric-light and power and telephone wiring and complete plumbing system; reinforced concrete construction; vacuum steam heating system; vacuum cleaning equipment; cost \$15,000 to \$20,000; plans and specifications at office of L. D. Proffitt, architect, Spartanburg, S. C. (Recently noted.)

Tenn., Memphis.—Alston Boyd and associates are reported as to erect office building at Madison Ave. and Maiden Le.; 14 stories; 28x148 feet; structural iron and brick; cost \$250,000.

Tex., Beaumont.—Stone & Webster Corporation, Boston, Mass., is reported as to erect office and depot building to cost \$50,000.

Tex., Greenville.—Graham Bros. open bids first part of June to erect office and store building recently noted. (See "Stores.")

Tex., Port Arthur.—Merchants' State Bank will erect bank building; two stories; brick; 80x140 feet.

Tex., Abilene.—W. H. Graham and associates will erect bank, office and theater building; five stories and basement; probably roof garden; first floor for bank; upper floors, offices; reinforced concrete, faced with brick; electric elevator; hot and cold water; gas and electric lighting; preliminary plans and specifications being prepared by M. L. Waller, 209½ W. 8th St., Fort Worth, Tex.; with contract in early fall; cost \$80,000 to \$90,000.

W. Va., Charleston.—Mrs. A. Boriarsky, it is reported, is having plans prepared by Weber, Werner & Adkins, Mercantile Library Bldg., Cincinnati, O., for office building; four stories; 40x100 feet.

CHURCHES

Ala., Uniontown.—Presbyterian Church, W. J. White, chairman building committee, opens bids June 1 to erect building; plans by L. B. Vaulk, Los Angeles, Cal. (Previously noted.)

Ark., Little Rock.—First Presbyterian Church, Rev. John Van Lear, pastor, will erect building; 80x150 feet; hot-air heat; electric lighting; cost \$75,000; architect not selected; let contract July 1; proposals may be addressed to B. N. Green.

Fla., Key West.—Memorial Church, Hubert T. Roberts, chairman building committee, contemplates erecting building.

Fla., West Palm Beach.—Methodist Church is having plans prepared by John Gaisford, Memphis, Tenn., for building; 75x87 feet; two stories and basement; auditorium to have bowl floor and seat 800; gray Brazil brick; tower; cost \$21,000.

Ga., Atlanta.—Unitarian Church is having plans prepared by W. A. Edwards, Atlanta, for building on West Peachtree St.; cost \$20,000.

Ky., Lexington.—St. Paul's Catholic Church is having plans prepared by L. K. Frankel of State University, Lexington, for school building; 68x128 feet; two stories and basement; auditorium to seat 600; gas and electric lights; cost \$30,000; Rev. Father De Wagenaere, chairman of committee.

Md., Cumberland.—Jewish congregation will expend about \$5000 for improvements to synagogue to include 18-inch concrete floor, glass sliding door, heating plant, electric light fixtures on lower floor, etc.; Jacob Gottlieb, Erwin Rosenbaum, Arthur Steinweg and others, building committee.

Miss., Vicksburg.—Methodist Church will erect building. Address The Pastor, Methodist Church.

Miss., Wiggins.—Presbyterian Church will erect building; cost \$10,000. Address The Pastor, Presbyterian Church.

N. C., Gastonia.—First Presbyterian Church, Rev. J. H. Henderlite, pastor, is having plans prepared by Hook & Rogers, Charlotte, N. C., for remodeling church; cost \$15,000 to \$15,000.

Tenn., Cleveland.—East Cleveland Baptist Church will erect building; J. M. Dunn, G. Cecil and others, committee.

Tenn., Columbia.—First Presbyterian Church will erect building. Address The Pastor, First Presbyterian Church.

Tex., Austin.—University Baptist Church plans to erect building to cost \$75,000. Address The Pastor, University Baptist Church.

Tex., Mexia.—First Methodist Church, John R. Corley, chairman building committee, will erect building; cost about \$30,000; bids received until May 25; plans and specifications on file with chairman of committee and at office of Van Slyke & Woodruff, Oklahoma City, Okla. (Lately noted.)

Tex., Round Rock.—Baptist Church opens bids June 1 to erect building; 40x58 feet; brick; hot-air furnace; cost \$6000; plans by Page Bros., Austin, Tex.; proposals may be addressed to W. L. A. Straubing. (Recently noted.)

Va., Richmond.—Barton Heights Presbyterian Church, Rev. Thomas Phelps, Allan, pastor, will erect \$15,000 building.

W. Va., Ashland.—First Methodist Episco-

pal Church will erect building; cost \$80,000. Address The Pastor, First Methodist Episcopal Church.

W. Va., Clarksburg.—Polish Catholic Church has plans by E. J. Wood for church building; stone and pressed brick; cost about \$15,000.

W. Va., Huntington.—Emmanuel Methodist Episcopal Church will erect chapel; cost \$4000; B. F. Edgerton, K. M. Taylor and W. L. Mathews, committee.

CITY AND COUNTY

Fla., Auburndale—City Hall.—City will vote on \$5000 bond issue to erect city hall; W. S. Ryall, Mayor.

Fla., Jacksonville.—City Hall.—City plans to erect \$4000 addition to city hall for temporary use; contemplates erection of new city hall of at least five stories and to cost \$500,000; L. D. Smoot, chief engineer.

Fla., St. Petersburg—Bathhouse.—City will soon receive bids for erection of bathhouse at municipal amusement resort; cost at least \$5000. (See "Miscellaneous Enterprises.")

La., Oberlin—Jail.—Allen Parish Police Jury will award contract about July 2 to erect parish jail; 31x73 feet; two stories; reinforced concrete; electric-light plant to cost \$500; composition roof; plans and specifications by E. W. Phillips, Lake Charles, La., ready about June 4; cost \$25,000; R. C. Bond, president Police Jury.

Mo., Forsyth—Jail and Sheriff's Residence. Taney county, J. B. Hicks, Clerk, will receive bids until June 20 to erect reinforced concrete jail and Sheriff's residence; plans and specifications on file at offices of Arthur James, superintendent of jail building, Forsyth, or may be had from Central Engineering Co., Branson, Mo., on deposit of \$5.

Mo., Joplin—City Hall.—Building and Grounds Committee, J. P. Wilcs, chairman, is considering expending \$5000 to remodel and extend city hall.

Mo., Kansas City—Reformatory.—City is considering erection of women's reformatory at municipal farm to cost about \$12,000; main building of reinforced concrete; three stories and basement; plans later to erect two or three cottages. Address The Mayor.

Mo., St. Louis—Jail.—Board of Public Improvements opened bids to erect jail; Kellerman Construction Co., St. Louis, is lowest bidder for construction at \$183,000, and Pauly Jail Building Co., St. Louis, lowest bidder for installation of steel cells, at \$59,997; plans by Isaac S. Taylor, St. Louis, call for structure 100x60 feet; six stories; stone face; reinforced concrete floors; electric elevator; concrete slab with composition roof. (Recently noted.)

Okla., Stigler—Jail.—Haskell county will vote on bond issue to erect courthouse and jail. Address County Commissioners. (See "Courthouses.")

Tenn., Chattanooga—Hospital.—City and Hamilton county purchased site for erection of proposed contagious disease hospital. Address The Mayor and County Commissioners.

Tex., Angleton—Jail.—Commissioners' Court will erect jail; fireproof construction; cost \$17,000; plans by Tom E. Bergin, Sinton, Tex.

Tex., Dallas—Jail.—Dallas County Commissioners open bids about August 1 to 15 to erect jail and power plant, complete; former 115x90 feet; eight stories; fireproof reinforced concrete construction; cost \$400,000; plans by Harry A. Overbeck, 503 Juanita Bldg., Dallas. (Recently fully described.)

Tex., Upland—Jail.—Upton County Commissioners will erect courthouse and jail. (See "Courthouses.")

Tex., Fort Worth—Jail.—Tarrant county will vote July 19 on \$300,000 bond issue to erect jail. Address County Commissioners. (Recently noted.)

Tex., Franklin—Library.—City selected site for proposed library; fireproof; cost \$30,000; bids opened July 1; proposals may be addressed to E. A. Decherd, Jr.

Tex., Refugio—Jail.—Refugio county will vote June 21 on \$60,000 bond issue to erect courthouse and jail. Address County Commissioners.

W. Va., Charleston—Library.—City is considering erection of Carnegie Library to cost about \$40,000. Address The Mayor.

COURTHOUSES

N. C., Goldsboro.—Wayne County Commissioners selected J. M. Kennedy, Raleigh, N. C., associate architect for \$100,000 courthouse; two stories and basement.

N. C., Louisville.—Franklin County Com-

missioners will have plans prepared by Frank P. Milburn of Milburn, Heister & Co., 710 14th St. N. W., Washington, D. C., for courthouse.

Okla., Stigler.—Haskell county will vote on bond issue to erect courthouse and jail. Address County Commissioners. (Recently noted to have defeated similar issue.)

Tex., Athens.—Henderson County Commissioners will receive bids until June 9 to erect fireproof courthouse; plans and specifications at office C. D. Owen, Athens, and L. L. Thurmon & Co., architects, Anderson Bldg., Dallas, Tex., or may be had on deposit of certified check for \$50. (Recently noted.)

Tex., Belton.—Bell County Commissioners accepted plans by George Burnett, Waco, Tex., for improvements to courthouse; steam-heating plant; addition to steel vault; concrete wainscoting and floors; steel ceiling; cost about \$20,000. (Recently noted.)

Tex., Upland.—Upton County Commissioners plan to erect courthouse and jail to cost \$20,000.

Tex., Refugio.—Refugio county will vote June 21 on \$60,000 bond issue to erect courthouse and jail. Address County Commissioners.

DWELLINGS

Ala., Alexander City.—Roy Nolan has plans by William Leslie Welton, Birmingham, Ala., for residence.

Ala., Anniston.—Thomas E. Kilby has plans by W. T. Warren, Empire Bldg., Birmingham, Ala., for residence; 129 feet long; three stories; 20 rooms; tile roof; tile terrace and porch floors; alternate bids received for hollow tile walls veneered with brick.

Ala., Birmingham.—D. O. Whildin of Birmingham is preparing plans for three two-story dwellings; hollow terra-cotta tile.

Ala., Corey.—W. W. Ellis has plans by A. D. Slye, Ensley, Ala., for dwelling; cost \$5000.

Ala., Ensley.—R. E. Daniels is having plans prepared by A. D. Slye, Ensley, for dwelling on Ensley Highlands; cost \$3000.

Fla., Jacksonville.—A. Tischler will erect two-story frame building on 7th St.; cost \$3500.

Fla., Jacksonville.—Y. Thompson will erect two-story frame building on Oak St.; cost \$4000.

Fla., Miami.—H. H. Mundy will erect residence; Venetian palace style; concrete, stuccoed white; tile roof; cost \$10,000.

Fla., Tampa.—I. B. Read, Tarpon Springs, Fla., will erect two residences in Tanner subdivision.

Fla., Tampa.—Charles Wall will erect residence at 13th St. and Seventeenth Ave.; cost \$2300.

Fla., Tampa.—V. A. Davis will erect residence at South Orleans and Inman Sts.; cost \$3800.

Fla., Tampa.—C. S. Stafford will erect dwelling at Kay and Highland Sts.; cost \$3000.

Ga., Atlanta.—Ben Z. Phillips will erect residence in Druid Hills; two stories; brick veneer; cost \$28,150.

Ga., Atlanta.—Phoenix Investment Co. will erect two-story board dwelling at 164 Westminster Pl.; cost \$3250; day labor.

Ga., Atlanta.—S. R. Crawford will erect two-story brick-veneer dwelling at 619 Piedmont Ave.; cost \$8000; day labor.

Ga., Atlanta.—F. E. Mackle will erect two-story brick-veneer dwelling at 550 Highland Ave.; cost \$8000; day labor.

Ga., Atlanta.—S. Cunningham will erect four one-story frame dwellings at 62 Parsons St., 234, 358 and 360 W. Fair St., and repair fire damages at 39 and 45 Cunningham St.; total cost \$4400.

Ga., Atlanta.—Mrs. Joseph E. Leppert will erect two-story frame dwelling at 234 Moreland St.; cost \$6000.

Ga., Atlanta.—Fulton County Home Builders will erect one-story frame dwelling at 121 Wabash Ave.; cost \$3200.

Ga., Augusta.—J. Richards is having plans prepared by Barwell, Jones & Barwell, Leonard Bldg., Augusta, for dwelling; 1½ stories; frame; slate roof; cost \$7500; plans ready June 15.

Ga., Savannah.—Mrs. Matilda G. Heltman purchased site at Ogeechee Rd. and 34th St., and will, it is reported, erect 20 to 30 one or two-story frame dwellings, to cost about \$20,000.

Ky., Louisville.—E. S. Boswell will erect two frame dwellings at 1833 Chichester St.; cost \$5000.

Ky., Louisville.—J. M. Dinwiddle will erect

two frame cottages at 23d St. and Garland Ave.; cost \$3000.

La., New Orleans.—Mrs. Catherine B. Gribble will erect two-story frame and stucco dwelling; cost \$6000.

La., New Orleans.—Alexander Hay is preparing plans for two-story stucco residence for Gentilla Terrace.

La., New Orleans.—John Souquers will erect double cottage on Banks St.; cost \$3100.

La., New Orleans.—E. Lassalle will erect double frame cottage; cost \$3000.

La., New Orleans.—Mrs. James T. Nix will erect nine cottages in Gayoso St.; cost \$4500.

La., New Orleans.—New Orleans Land Co. will erect 34 dwellings in Homedale and Lakeview in addition to six now under construction.

La., New Orleans.—Security Building and Loan Association will erect two-story frame dwelling on Eleonore St.; cost \$5000.

La., New Orleans.—H. C. Smith will erect frame dwelling on Broadway; cost \$5271.

La., New Orleans.—Mrs. S. H. Bohne will erect double two-story residence to cost \$4500.

Md., Baltimore.—Henry Lay Duer, 1804 St. Paul St., will erect residence at Guilford.

Md., Baltimore.—Charles W. Henley of C. W. Henley & Co., 1600 Continental Bldg., Baltimore, is reported as having plans prepared by Edward L. Palmer, Jr., 408 Roland Ave., Roland Park, Md., for dwelling; English renaissance.

Md., Baltimore.—Eugene Greenway, 909 Calvert Bldg., will erect residence at Guilford.

Md., Baltimore.—Roland Park Co., 408 Roland Ave., Roland Park, Md., has plans by Edward L. Palmer, Jr., 408 Roland Ave., Roland Park, Md., for 17 dwellings at Guilford, and will receive bids for construction until June 1; two and a half stories; brick; stone foundations; steam heat; electric lights. (Recently noted.)

Md., Baltimore.—Forest Park Co., Maryland Telephone Bldg., will erect residence on west side Berwin Ave.; two and a half stories; frame; 25x31 feet; plans by Henry J. Tinley, 312 N. Charles St., Baltimore.

Md., Baltimore.—Joseph L. White Realty Co., Potomac and Monument Sts., has plans by C. C. Broening for eight two-story brick dwellings and store and dwelling in 3100 block E. Monument St.; 15x45 feet; cost \$12,000; construction by owner.

Md., Frederick.—Frederick Realty Co. has plans by B. Eward Kepner, Frederick, Md., for residence at Elm and 5th Sts.; cottage style; eight rooms; hollow tile, covered with stucco and sand finish.

Md., Jefferson.—M. R. Etchison has plans by B. Eward Kepner, Frederick, Md., for dwelling; eight rooms; cottage type; frame and stucco.

Md., Westport.—Joseph Berman, 231 Courtland St., Baltimore, Md., purchased site of 30 acres and will erect number of two-story brick dwellings; plans and construction by owner.

Mo., Kansas City.—W. F. Allen, 7301 Bellevue Ave., has plans by C. A. Mack, 411 R. A. Long Bldg., Kansas City, for dwelling; 31 feet 6 inches by 41 feet 6 inches; brick veneer and stucco; mill construction; hot-water heat; cost \$6500; bids opened about June 15. (Recently noted.)

Mo., St. Louis.—T. F. French, National Life Insurance Co., will erect 19-room residence.

Mo., St. Louis.—Frank Barnett will erect residence at 7024 Dale Ave.; two stories; cost \$3000.

Mo., St. Louis.—Thomas Mullinix will erect six dwellings in 3100 block Ivanhoe Ave.; two stories; cost \$17,500.

Mo., St. Louis.—Sam Koplar is erecting number of California bungalows at Kingshighway and Columbia Ave.; five to eight rooms; each 40x170 feet; tile baths; electric showers; construction under management of Sam Hamburg, Jr., of Rosenbaum & Hauschulte Real Estate Co.

Mo., St. Louis.—George Mundmiller will erect two-story dwelling at 306 Miami St.; cost \$2000.

Mo., St. Louis.—F. Knapstein will erect two-story dwelling at 3224 E. Dakota St.; cost \$6500.

Mo., St. Louis.—Fred Raubut will erect two one-story dwellings at 6120 Vermont St. and 6202 Pennsylvania St.; cost \$4000.

Mo., St. Louis.—Walter L. Rathmann of Klipstein & Rathmann will erect residence on Flora Boulevard.

Mo., St. Louis.—Mary Blank will erect two

two-story brick dwellings at 2148-50 McCausland Ave.; cost \$7000.

Mo., St. Louis.—M. B. O'Reilly Realty & Investment Co. will erect number of dwellings in 6100 block Oakland Ave.; hot-water heat.

Mo., St. Louis.—Mrs. Florence H. Woodruff will erect residence on Kingsbury Pl.

Mo., St. Louis.—J. H. Gates will erect two-story dwelling at 4271 Cote Brillante; cost \$3900.

Mo., St. Louis.—G. H. Davis will erect two-story dwelling at 1414 McCausland Ave.; cost \$3000.

Mo., St. Louis.—A. F. Reller will erect three-story dwelling at 8457 N. Broadway; cost \$3850.

Mo., St. Louis.—Anna Schoenning will erect two-story store and dwelling at 5010-10a Gravois St.; cost \$5535.

Mo., St. Louis.—January Realty Co. will erect two-story dwelling at 5564 Etzel St.; cost \$4500.

N. C., Greensboro.—H. J. Thurman will erect residence in Fisher Park; 50x70 feet; ordinary construction; low-pressure steam or hot-water heat; electric lighting; clay tile roof; cost \$5000 to \$7000; plans by Raleigh James Hughes of Greensboro.

N. C., Raleigh.—Judge W. A. Hoke will erect residence in Cameron Park; 10 rooms; cost \$6000.

N. C., Raleigh.—Allen J. Barwick will erect residence at Glenwood Ave. and Boundary St.

Okla., Tulsa.—Philip Bull will erect three one-story frame dwellings on South Kenosha Ave.; cost \$4500.

Okla., Tulsa.—J. E. Van Sant will erect two-story frame dwelling on South Denver Ave.; cost \$4100.

Okla., Tulsa.—Fred. Frey will erect one-story dwelling on South Baltimore Ave.; cost \$2000.

S. C., Columbia.—R. B. Sloan has plans by Wickham C. Taylor, 401 Citizens' Bank Bldg., Norfolk, Va., for dwelling; cost \$8000.

S. C., Columbia.—S. K. Oliver has plans by Wickham C. Taylor, 401 Citizens' Bank Bldg., Norfolk, Va., for dwelling; cost \$8000.

S. C., Columbia.—G. M. Taylor has plans by Wickham C. Taylor, 401 Citizens' Bank Bldg., Norfolk, Va., for dwelling; cost \$8000.

S. C., Columbia.—Gonzales estate, Capt. W. E. Gonzales interested, contemplates erecting residence on Fairwood farms.

Tenn., Columbia.—H. L. Hendley will erect residence.

Tenn., Memphis.—H. O. Scott will erect residence in Speedway Terrace Addition.

Tenn., Memphis.—F. A. Burns will erect residence in Speedway Terrace Addition.

Tenn., Memphis.—R. C. Reeves will erect residence in Speedway Terrace Addition.

Tex., Cuero.—R. C. Flick will erect residence.

Tex., Cuero.—Joe Sheridan will erect residence.

Tex., El Paso.—I. Ochoa will expend \$3500 for improvements to residence 2331 Boulevard.

Tex., El Paso.—Phoenix El Paso Building Co., Room 2 Buckler Bldg., will erect residence and brick garage; two stories; nine rooms; cost \$9800; plans by O. H. Thorman & Co.; W. J. Jolly, construction engineer. This is in addition to six five and six-room brick bungalows to cost \$2000 to \$2500 each.

Tex., Houston.—G. W. Foster will erect six-room residence on Rosalie Ave.; cost \$3000.

Tex., Houston.—Houston Land Corporation will erect seven-room residence on Kipling St.; cost \$3000.

Tex., Houston.—Julius Pollack will erect residence on Jackson St.; cost \$3000.

Tex., Houston.—W. A. Smith is receiving bids for residence on Lovett Boulevard; plans by Sanquinet & Staats, First National Bank Bldg., Houston.

Tex., Houston.—Russell Brown Company will erect residence for E. R. Spotts; eight rooms; sleeping gallery; will also erect six-room dwelling on Hathaway Ave., to cost \$3000.

Tex., Houston.—William A. Wilson Company will erect two four-room, one three-room and two five-room bungalows on Columbia St. and White Oak Ave.; cost \$5150.

Tex., Matagorda.—Episcopal Church will erect rectory. Address The Rector, Episcopal Church.

Tex., San Antonio.—E. H. Dittmar will erect six-room dwelling on Army Ter.; cost \$3000.

Tex., San Antonio.—C. H. Tupper will erect

two-story dwelling on Magnolia Ave.; cost \$3700.

Va., Norton.—Dr. R. P. Carr will erect residence to replace burned structure.

Va., Norfolk.—Dr. Southgate Leigh has plans by Wickham C. Taylor, 401 Citizens' Bank Bldg., Norfolk, for proposed dwelling; cost \$17,000.

Va., Richmond.—E. R. Lafferty will erect detached two-story brick dwellings on Monument Ave.; cost \$12,000.

Va., Richmond.—George W. Lewis will erect two two-story brick dwellings at 624-26 N. 9th St.; cost \$3950.

W. Va., Coffman.—Winona Coal & Coke Co., Grafton, W. Va., will erect 16 two-story residences; frame; four or five rooms each.

GOVERNMENT AND STATE

Ala., Wylam.—Postoffice.—Treasury Department, Oscar Wenderoth, supervising architect, Washington, D. C., will receive bids until June 15 to erect postoffice building.

Ala., Speigner.—Prison.—Convict Board, Hartwell Douglass, president, Montgomery, Ala., will erect concrete prison and concrete wall.

Ark., Little Rock.—Institute.—R. W. Hart, secretary Board of State Charitable Institutions, will receive bids until June 5 to erect frame barn, remodel industrial building and erect brick two-story building at Deaf Mute Institute; separate bids on each classification of work, labor and material; drawings and specifications at office of superintendent of institute and H. J. Harker, architect, 702-03 State Bank Bldg., Little Rock.

D. C., Washington.—Ponton Shed.—War Department, Engineer Department, United States Army, Maj. W. J. Barden, Corps of Engineers, Washington, D. C., will expend \$15,000 to erect ponton shed No. 3 at Washington Barracks; two stories; 40 feet 5 inches by 162 feet; ordinary construction. (Recently noted to receive bids until June 29.)

Fla., Key West.—Officers' Quarters.—Bureau of Yards and Docks, Navy Department, Washington, D. C., will receive bids until June 7 to erect marine officers' quarters at Naval Station; \$9000 available; plans and specifications on application to bureau and commandant of station; Wm. M. Smith, acting chief of bureau.

Okla., Oklahoma City.—Capitol.—Gov. Lee Cruce signed bill appropriating \$750,000 for construction of capitol building.

Tenn., Springfield.—Postoffice.—Treasury Department, office of Oscar Wenderoth, supervising architect, Washington, D. C. Proposals received until July 2 for construction (including plumbing, gaspiping, heating apparatus, electric conduits and wiring, interior lighting fixtures and approaches) of United States postoffice; two stories and basement; ground area, about 430 square feet; non fireproof; stone and brick facing; terra-cotta cornice; tin roof; drawings and specifications obtainable from custodian of site at Springfield or at this office, at discretion of supervising architect.

Tex., Hillsboro.—Postoffice.—Treasury Department, office of Oscar Wenderoth, supervising architect, Washington, D. C. Proposals received until June 27 for construction (including plumbing, gaspiping, heating apparatus, electric conduits and wiring, and interior lighting fixtures) of United States postoffice; will contain about 430 square feet in ground area; one story and mezzanine; faced with stone and granite to first floor, with brick above; terra-cotta trimming and tile roof; first floor only of fireproof construction; drawings and specifications obtainable from custodian of site at Hillsboro or at this office, at discretion of supervising architect.

HOTELS

Ala., Birmingham.—J. L. Yancey Real Estate & Insurance Co., 118 N. 21st St., is erecting hotel building for David Roberts, Jr.; 50x100 feet; three stories; fireproof. (J. L. Yancey Company recently noted to erect building.)

Fla., Orlando.—J. B. Magruder will erect hotel; 100x102 feet; three stories; 64 rooms and 22 bathrooms; 64 lavatories; small hand elevator; tin roof; plans and construction by owner.

La., New Orleans.—New Orleans Netherlands Co., 810 Maison Blanche Bldg., has plans by De Buys, Churchill & Labouisse, New Orleans, for hotel at Winter Garden Farms; mill construction; cost \$30,000; construction by owner. (Recently noted.)

Miss., Laurel.—Pinehurst Hotel Co., F. R. Gilchrist, chairman of committee, is having

plans prepared by De Buys, Churchill & Labouisse, New Orleans, La., for hotel building; cost \$75,000. (Recently noted.)

Mo., Kansas City.—Joseph Kelly and Dr. H. E. Silverstone will erect building for hotel and stores; six stories; stores on ground floor.

Mo., St. Louis.—Planters' Hotel will expend \$15,000 for improvement to hotel, 111 N. 4th St.

N. C., Bessemer City.—H. C. Fronenberger is reported as to erect hotel; brick.

Okla., Tulsa.—R. T. Daniel will equip second floor of Model Laundry building for hotel. (See "Stores.")

S. C., Darlington.—Chamber of Commerce is promoting erection of hotel to cost at least \$50,000.

Tex., Palestine.—Palestine Hotel Co., Hyman Pearlstone, president, will probably ask bids in 30 days to erect fireproof hotel; 75x100 feet; five stories and basement; cost \$100,000; proposals may be addressed to J. C. Stillman, Palestine. (Recently noted.)

Tex., Temple.—Gulf, Colorado & Santa Fe Railway Co., F. Merritt, chief engineer, Galveston, Tex., accepted plans for hotel; three stories; fireproof; cost not less than \$175,000.

Va., Pocahontas.—H. W. Hicks, Charles Stump, James H. McNeel and others will erect hotel on St. Clair St.; four stories; fireproof; reinforced concrete; electric elevator.

MISCELLANEOUS

Ala., Birmingham.—Home.—Home for Incurables, Mrs. H. K. Fenner, president, has plans by John H. Thomas, Birmingham, for addition; two stories; 62x40 feet; cost \$17,000.

Ala., Birmingham.—Skating Rinks, etc.—Bandy-Mill Park Co., J. W. Cole, secretary-treasurer, will erect rinks, theaters, dance floors, etc. (See "Land Developments.")

Arkansas.—Clubhouse.—Wapanocca Outing Club, J. P. Edrington, W. P. Halliday, J. C. Neely, members, all of Memphis, Tenn., will erect \$20,000 clubhouse to replace structure in Crittenden county, Arkansas, reported burned.

Fla., Bartow.—Clubhouse.—Crooked Lake Anglers' Club has plans by Bonfoey & Elliott, Tampa, Fla., for clubhouse at Crooked Lake; two stories; screened porches in rear and front.

Fla., Silver Springs.—Pavilion.—Ed. Carmichael, Ocala, Fla., will erect pavilion to replace present structure; 100x30 feet; concrete base; artificial stone construction.

Ga., Savannah.—Clubhouse.—Messrs. Rowland, owners, will erect additional story to B. P. & T. Club; 10 rooms.

Mo., St. Louis.—Clubhouse.—Engineers' Club, John Hunter, president, Academy of Science, Olive St. near Vandeventer Ave., is reported as to erect building.

Mo., St. Louis.—Swimming pool.—Cecilia A. Mannion will erect one-story swimming pool at 846 Water St.; cost \$500.

N. C., Crescent.—Home.—Nazareth Orphan's Home of Reformed Church, Rev. J. W. Bell, superintendent, will enlarge dining-room at cost of \$500, erect dormitory and chapel building to cost \$8000; dormitory 43x100 feet; 18 rooms; accommodations for 36 boys; chapel room 41x75 feet; Rowan granite; J. T. Hedrick, Rev. J. M. L. Lyster and L. M. Peeler, building committee.

N. C., Newbern.—Pavilion.—Executive committee of Eastern Carolina Fair is considering plans for \$4000 pavilion in Glenburnie Park; Clyde Elby, chairman of committee on plans.

N. C., Salisbury.—Clubhouse.—Rowan Country Club will erect clubhouse; cost \$20,000; site donated by T. J. Jerome.

Tex., Fort Worth.—Home.—Methodist Women's City Mission Board accepted plans for Wesley House at 21st and Commerce Sts.; inaugurated campaign to raise \$4000 for this purpose; Mrs. J. T. Bloodworth, president of board.

RAILWAY STATIONS, SHEDS, ETC.

Md., Hagerstown.—Cumberland Valley Railroad, G. C. Koons, engineer, Chambersburg, Pa., will, it is reported, erect passenger station, bridge, etc., in connection with other improvements.

S. C., Sumter.—Atlantic Coast Line Railway, E. B. Pleasants, chief engineer, Wilmington, N. C., is reported as to erect transfer freight shed and platforms.

Tex., Beaumont.—Stone & Webster Corporation, Boston, Mass., is reported as to erect depot and office building; cost \$80,000.

Tex., Fort Worth.—Texas & Pacific Railway, C. H. Chamberlin, chief engineer, Dal-

las, Tex., will, it is reported, expend \$50,000 for improvements to station.

SCHOOLS

Ala., Birmingham.—City Commission will expend \$35,000 for temporary repairs to school.

Ala., Birmingham.—Alabama Girls' Technical Institute contemplates improvements to include \$12,000 infirmary building according to plans by W. T. Warren, Birmingham, Ala.; pottery kilnhouse, improvements to campus, 18-acre park, etc.; approved plans of Charles W. Leavitt, Jr., 15 Cortlandt St., New York, for general improvements.

Ala., Montevallo.—City opens bids June 15 to erect school building; six rooms on first floor; auditorium on second floor; cost \$7000 to \$8000; J. M. Reynold, Mayor. (Bond issue of \$9000 recently noted voted.)

Ark., Olney.—City voted tax to erect school; Frank E. Patrick, school director.

Fla., Buffalo Avenue (not a postoffice).—Hillsboro County School Board, Tampa, Fla., ordered election to vote on \$20,000 bond issue to erect two schools. (See "Fla., Gary.")

Fla., East Tampa (not a postoffice).—Hillsboro County School Board, Tampa, Fla., ordered election in East Tampa School District to vote on \$6500 bond issue to erect brick school. (See "Fla., Gary.")

Fla., Gary.—Hillsboro County School Board, Tampa, Fla., ordered elections in Gary and Buffalo Avenue School districts, each to vote on \$20,000 bond issue, and in East Tampa School District to vote on \$6500 bond issue; plans to erect \$15,000 school in Buffalo Avenue District, \$5000 one-story school in Seminole Heights and schools in other districts corresponding to bond issues.

Fla., Homestead.—Homestead school district will vote June 24 on \$10,000 bond issue to erect schools; R. F. Tatum, R. L. Moser and W. D. Horne, inspectors of election.

Fla., Ocala.—City and Marion county will soon vote on bond issue to erect school for which preliminary plans are being prepared by Mark & Sheftall of Jacksonville, Fla.

Ga., Colquitt.—City votes June 5 on \$5000 bond issue for schools, etc. Address The Mayor.

Ga., Kite.—City opens bids about July 1 to erect school; cost \$4000; J. S. Stephenson, clerk. (Bond issue of \$3000 recently noted voted.)

Ga., Atlanta.—Board of Education proposes erection of girls' English commercial high school to cost \$75,000.

Ga., Macon.—Board of Public Education of Bibb county, T. D. Tinsley, chairman, will receive bids until June 19 to erect high school at Orange and Forsyth Sts.; plans and specifications at office of Blair & Adams, architects, 673 Cherry St., Macon, or may be had on deposit of \$50; three-story structure; brick and stone. (Recently noted.)

Ga., Summerville.—School Board is having plans prepared by W. H. Sears, James Bldg., Chattanooga, for school; 70x90 feet; ordinary construction; steam heat; electric lighting; composition roof; cost \$15,000; bids opened July 15.

Ky., Glasgow.—City voted \$6000 for school improvements. Address The Mayor.

Ky., Fort Thomas.—City has plans by Weber, Werner & Adkins, Mercantile Library Bldg., Cincinnati, O., for two-story and basement high school; 121x154 feet; estimated cost \$50,000; David Davies, president Board of Education.

La., Monroe.—City will vote tax for schools, street paving, subsurface drainage and sewerage, reinforce free traffic bridge and extend street railway through West Monroe to city's gravel pit. Address The Mayor.

La., Mount Hermon.—Mount Hermon School District Trustees will erect school building.

Md., Frederick.—Hood College, Dr. J. H. Apple, president, opened bids to erect administration and dormitory building; 250x100 feet; ordinary construction; combination fixtures; James L. Menough, York, Pa., is lowest bidder at \$118,000; plans by John B. Hamme, York, Pa. (Recently noted.)

Md., Boonsboro.—Washington County School Board, Hagerstown, Md., will erect school. (See Md., Hagerstown.)

Md., Fair Play.—Washington County School Board, Hagerstown, Md., will erect school. (See Md., Hagerstown.)

Md., Hagerstown.—Washington County School Board will erect schools at Boonsboro, Hopewell, Yarrowburg, Fair Play

and Ringgold, Md., and addition to Surrey School in Hagerstown.

Miss., Meadville.—Franklin County Commissioners will award contract June 3 to erect dormitory at Franklin County Agricultural High School. (Previously noted.)

Miss., Natchez.—City rescinded contract recently awarded to William Steltenroth to erect negro school and will receive new bids.

Miss., Ruleville.—Mayor and Board of Aldermen will erect two-story brick school according to plans by M. M. Alsop, Houston, Miss.; bids opened May 26.

Miss., Tupelo.—City voted \$25,000 bond issue to erect school. Address The Mayor.

Mo., Carl Junction.—City voted \$13,999 bond issue to erect school; red brick; two stories; 15 rooms, auditorium and basement; steam heat. Address The Mayor.

Mo., Kirkwood.—City defeated \$50,000 bond issue for school improvements; C. A. Lawton, secretary. (Recently noted.)

Mo., Thayer.—Thayer School District, A. A. Taber, secretary, will receive bids until June 10 to erect two-story school; cost \$20,000; plans by Miller, Opel & Torbitt, Springfield, Mo.

N. C., Andrews.—City will vote on bond issue to erect school. Address The Mayor.

N. C., Mt. Olive.—Mt. Olive Graded School District will vote June 10 on \$10,000 bond issue for school improvements. Address District School Trustees.

N. C., Roseboro.—Roseboro School District voted \$10,000 bond issue to erect school. Address District School Trustees.

S. C., Anderson.—Dr. W. H. Nardin, J. L. Hembree and associates, it is reported, will erect building for Greely Institute; plans by Mr. Hembree.

S. C., Anderson.—Trustees of school district No. 17 will have plans prepared by J. H. Casey, Anderson, for two school buildings east of Main St., one on Kennedy St. and one on North Orr St.; will have plans prepared by Sayre & Baldwin, Anderson, for building on Glenn St. and one in southern section of city. (City recently voted \$100,000 bond issue.)

N. C., Angler.—City voted bond issue for school improvements; will erect brick building; cost \$15,000; plans by W. H. Stephenson, Angler; bids opened shortly.

N. C., Cary.—Wake County Commissioners, Raleigh, N. C., will erect school; concrete and brick; auditorium to seat 1000; two stories and basement; 60x70 feet; 14 classrooms; voted \$25,000 bond issue. (Recently noted.)

N. C., Columbus.—School Committeemen of Columbus High School, F. M. Burgess, secretary, will award contract June 2 to erect addition to school; 35x20 feet; plans and specifications on application; completion by August 15.

N. C., Pineville.—City is having plans prepared by Louis H. Asbury, Charlotte, N. C., for school building; eight rooms and assembly hall; cost \$17,000. (Recently noted to open bids about July 1.)

N. C., Waco.—Waco school district voted \$5000 bond issue to erect school. Address District School Trustees.

N. C., Wilson.—City will vote May 31 on \$30,000 bond issue to erect school. Address The Mayor. (Recently noted.)

S. C., Columbia.—Richland county, S. M. Clark, superintendent of education, will erect four schools in county.

S. C., Duncan.—Duncan school district votes May 29 on tax for school improvements; O. M. Moore, J. C. Moore and Elijah Vaughn, trustees.

S. C., Hartsville.—J. D. Coker, clerk, will receive bids for Trustees of Antioch Consolidated Schools for construction only of school building; eight classrooms and auditorium; plans from said clerk on deposit of \$5; J. L. Byrd, chairman of board.

S. C., Mayo.—Mary Louis school district will vote on May 31 on tax for school improvements; J. C. Turner, H. T. Cash and F. H. Hardin, trustees.

S. C., Pauline.—Pauline School District will vote June 7 on tax for school improvements; A. D. Smith, M. A. Finch and L. M. Lanford, trustees.

Tenn., Nashville.—Tennessee Medical College will expend \$3000 for repairs; Dr. R. E. Fort is interested.

Tenn., Rogersville.—Hawkins County High School Board, A. B. Rogan, chairman, and F. H. Parvin, secretary, will consider sites for location of three proposed high schools.

Tex., Angleton.—Angleton School District accepted plans for \$15,000 school; five classrooms and auditorium. Address District School Trustees. (Recently noted.)

Tex., Bartlett.—School Board, Stanton Allen, president, will receive bids until September 15, addressed to E. C. Halber, secretary, to erect school; brick; cost \$10,000 to \$15,000. (Recently noted.)

Tex., Comanche.—Public School Trustees, G. L. Sullivan, secretary, will erect school; cost \$10,000 to \$12,000; architect not selected; bond issue of \$15,000 voted. (Recently noted.)

Tex., Corsicana.—Tolar Independent School District will vote June 21 on \$12,000 bond issue to erect school. Address District School Trustees.

Tex., Duncanville.—Duncanville Independent school district, T. A. Sliger, president, will receive bids until June 2 to erect two-story high school; finished by October 1; plans may be had at office of Mr. Sliger.

Tex., Duncanville.—Duncanville Independent School District, T. A. Sliger, president, will receive bids until June 2 to erect two-story high school; completion by October 1; plans and specifications at office of Mr. Sliger on deposit of \$10.

Tex., Eddy.—Eddy Independent school district, D. W. Harwell, president, will erect school building; 75x90 feet; brick; cost \$16,000. (Bond issue recently noted.)

Tex., Giddings.—School trustees accepted plans by Henry T. Phelps, Gunter Bldg., San Antonio, Tex., for proposed \$25,000 school.

Tex., Goldsmith.—School Board, B. F. Geeslin, president, will receive bids until June 9 to erect high school; brick and reinforced concrete or rubble stone stuccoed with reinforced concrete floors or brick walls with concrete floors; plans and specifications at office of W. P. McCullough, secretary of board, Goldsmith, and Henry T. Phelps, architect, 707-19 Gunter Bldg., San Antonio, Tex., or may be had on deposit of certified check for \$25. (Previously noted.)

Tex., Kingsville.—Kingsville Independent school district, T. C. Moore, secretary, will receive bids until May 30 to erect two two-story six and seven-room brick schools; plans and specifications at office of Adams & Adams, architects, Gibbs Bldg., San Antonio, Tex., or may be had on deposit of certified check for \$25. (Previously noted.)

Tex., Presidio.—Presidio County Commissioners will erect school.

Tex., Red Oak.—Red Oak Independent school district voted \$15,000 bond issue to erect school. Address District School Trustees.

Tex., San Antonio.—Bexar county voted \$23,000 bond issue for district school building. Address District School Trustees. (Previously noted.)

Tex., Seguin.—City voted \$48,000 bond issue to erect school for which plans are being prepared by Atlee B. Ayres, San Antonio, Tex.; 16 rooms; brick; stone trimmings; two stories and English basement.

Va., Danville.—Danville School will erect additional building; three stories; brick stuccoed; cost \$16,000.

Va., Union Level.—School Board will receive bids through W. H. Elam, Jr., Clarksville, Va., until June 5 to erect high school near Union Level; plans and specifications at office of Frank C. Bedinger, Boydton, Va., and G. R. Ragan, architect, Roanoke, Va., or may be had on deposit of certified check for \$10.

W. Va., Huger, P. O. Olmsted.—Brown's Creek school district of McDowell county, Henry K. Barbe, district superintendent, Welch, W. Va., opens bids May 31 to erect four-room brick school; ordinary construction; plans by W. B. Smith of Huntington, W. Va. (Recently noted.)

W. Va., Marytown.—Brown's Creek School District of McDowell county, Henry K. Barbe, District Superintendent, Welch, W. Va., opens bids May 31 to erect four-room building for Marytown and Premier schools; ordinary construction; plans by W. B. Smith, Huntington, W. Va.; building recently noted. (See "Machinery Wanted.")

W. Va., Rader.—Green School District voted \$20,000 bond issue to erect high school. Address District School Trustees. (Recently noted.)

W. Va., Webster County.—Board of Education, Glade district of Webster county, receives bids on or about June 20 to erect high school building; cost \$25,000; plans by A. F. Wysong, Princeton, W. Va.

STORES

Ala., Birmingham.—Louis Plitz leased Burton Hotel and will remodel that and present store building for department store.

Ala., Birmingham.—H. J. Porter Clothing Co. has plans by William Leslie Welton, Birmingham, for improvements to store building to cost \$20,000.

Ala., Birmingham.—R. S. Ruters of Bell-Rogers Company, Bessemer, Ala., and Frank S. White, Birmingham, plan to erect business building on First Ave.; 50x140 feet.

Ala., New Decatur.—Alshine Bros. will erect store building; cost \$20,000.

Ark., Fort Smith.—Fagan Bourland will erect wholesale building; three stories; brick; 50x140 feet.

Ark., Jonesboro.—E. Less of Little Rock, Ark., and B. H. Berger, Jonesboro, will erect store and apartment building on Main St.

Fla., Jacksonville.—Wilson Dry Goods Co. acquired building at 14-16-18 W. Bay St.; will remodel and enlarge; provide 46,000 square feet floor space.

Fla., Lakeland.—Kibbler Bros., Dunnellon, Fla., will erect six stories; reinforced concrete.

Fla., Miami.—D. G. Farr has plans by T. H. Mundy, Miami, for store and apartment building on 12th St. between Avenues B and C; two stories; cost \$12,000. (Recently noted.)

Fla., West Palm Beach.—F. A. Guild will not at present erect store recently mentioned.

Fla., West Palm Beach.—McGinley Bros. Co., Harry P. McGinley, secretary, will expend \$10,000 to erect two-story fireproof business building recently noted; character of construction, etc., not determined. (See "Machinery Wanted.")

Ga., Atlanta.—C. Simmons will expend \$3000 for improvements to building at 263 Myrtle St.

Ky., Hardinsburg.—B. F. Beard Company will rebuild store; 50x150 feet; brick; architect not selected. (Recently noted.)

La., Bogalusa.—H. Greenburg will erect business building; brick; cost \$8000.

La., Bogalusa.—Borenson Bros. will erect brick business building; cost \$10,000.

La., New Orleans.—Joseph Oppenheimer will erect business building on Dryades St.; five stories; brick; cost \$19,000.

La., New Orleans.—D. C. Hedden is having plans prepared for theater and arcade building. (See "Theaters.")

Md., Baltimore.—Joseph L. White Realty Co., Potomac and Monument Sts., has plans for store and dwelling. (See "Dwellings.")

Md., Baltimore.—The Hub, Baltimore and Charles Sts., will receive bids until May 29 to erect additional story to store building at Baltimore and Charles Sts.; plans by Parker, Thomas & Rice, Union Trust Bldg.; contractors estimating are: Edward Brady & Sons, 1113 Cathedral St.; Monmonier & Sorrell, 1711 McCulloh St., and Consolidated Engineering Co., Gunter Bldg., all of Baltimore. (Recently noted.)

Md., Frederick.—Carl Jacobson has plans by B. Evard Kepner, Frederick, for improvements to building on South Market St.; will install plate-glass display window, extend structure to provide storeroom 25x30 feet.

Miss., Gunnison.—H. Burta has plans by John Galsford, Memphis, Tenn., for store and apartment building; two stories; brick and cement; cost \$6000.

Mo., Kansas City.—William W. Lyon purchased building at 1227 Main St., and will remodel.

Mo., Kansas City.—Joseph Kelly and Dr. H. E. Silverstone will erect store and hotel building. (See "Hotels.")

Mo., Kansas City.—O. H. Martin, manager of Bay State Land Co., will receive bids through Root & Seimans, architects, 1212 Scarritt Bldg., Kansas City, until June 1 for four-story steel and concrete building at 922 Main St.; cost \$35,000.

Mo., St. Louis.—Anna Schoenning will erect store and dwelling. (See "Dwellings.")

Mo., St. Louis.—Louis C. Mische will erect two-story business building on 22d St.; cost \$7500.

Mo., St. Louis.—Otto Stifel will erect store and tenement-house. (See "Apartment Houses.")

Mo., St. Louis.—H. C. Koenig will erect store and apartment-house. (See "Apartment Houses.")

N. C., Fayetteville.—W. E. Brothers will erect three-story commercial building; plans by Benton & Moore, Wilson, N. C.

N. C., Wilmington.—William Konig will erect two one-story metal-covered buildings.

Okla., Tulsa.—R. T. Daniel will erect additional story to building on East 3d St. near Baltimore Hotel and improve Model Laundry building, erect additional story to same, and

equip second floor for hotel; total cost \$10,500.

S. C., Charleston.—Mrs. E. W. Jones will erect building at 9 St. Michaels Al.; cost \$4000.

S. C., Darlington.—Smilie Vaughan and associates will erect five stores; 18x50 feet; fireproof, including roof; electric lighting; cost \$8000.

Tenn., Chattanooga.—N. Thayer Montague will erect business building at 2d and Market Sts.

Tenn., Chattanooga.—John A. Patten, W. A. Sadd and W. E. Brock, acting for corporation to be formed, are reported to have secured lease on Kunz property at Market and 8th Sts. to erect building to cost at least \$100,000.

Tenn., Chattanooga.—F. L. Riggs and Geo. Hall will erect building at 4th and Market Sts.; two sections; first section three stories; to contain three stores and 10 apartments; second section two stories; upper floor for rooms or apartments; cost \$25,000; plans by Barnwell & Jones, Chattanooga.

Tenn., Memphis.—N. C. Perkins and J. C. Ottlinger will erect building on Union Ave.; five stories; brick and stone; 40x112 feet; cost \$40,000.

Tenn., Nashville.—Thomas W. Wrenne will erect brick building at 1110 Rocky Pt.; cost \$10,000.

Tex., Dallas.—Sidney Reinhardt will erect store building at Ervay St. and Grand Ave.; brick.

Tex., Dallas.—J. Hennenberg will erect building on Main St. between Hawkins St. and H. & T. C. trackage; two stories; 50x109 feet; cost \$25,000.

Tex., Dallas.—Herman Ebert will erect two-story brick store at Live Oak & Harwood Sts.; cost \$26,000.

Tex., Fredericksburg.—Richard Mater will erect two-story concrete building on San Saba St.; glass front; 50x50 feet.

Tex., Greenville.—Graham Bros. open bids first part of June to erect store and office building; four stories; fireproof reinforced concrete; cost \$100,000; plans by C. D. Hill & Co., Dallas, Tex. (Recently noted.)

Tex., Port Arthur.—John R. Adams & Co. will erect building; two stories; brick; 50x140 feet.

Va., Dublin.—Jordan Seed & Fertilizer Co. contemplates erecting business block; fireproof; cement block and steel casings.

Va., Norfolk.—Frank Dusch acquired Algonquin Hotel property and is receiving bids for converting into six storerooms.

Va., Norfolk.—D. Pender Grocery Co. has plans by Lee & Deith of Norfolk for store building recently noted to cost \$75,000; 31x150 feet; three stories. (See "Machinery Wanted.")

W. Va., Hotchkiss.—J. A. Mace will rebuild store; construction by owner. (Recently reported burned.)

THEATERS

Ala., Birmingham.—Bandy-Mill Park Co., J. W. Cole, secretary-treasurer, will erect theaters, etc. (See "Land Development.")

Fla., West Palm Beach.—Bijou Amuser Co., C. Kettler, Jr., president, has plans by Maughlin & Childs, West Palm Beach, for theater; 40x75x30 feet; fireproof; cost \$3500 to \$4500. (Recently noted.)

La., New Orleans.—D. C. Hedden is having plans prepared by Toledano & Wogan, New Orleans, for building at St. Charles and

Poydras Sts.; will contain one-story theater in rear of property, 88x66 feet; ground floor seating capacity 1000; entrance through arcade 104 feet long and 16 feet wide; pressed brick and steel; fireproof construction.

Md., Baltimore.—Robert MacBride, manager of Auditorium Theater, Howard St. near Franklin, is reported as interested in erection of burlesque theater at Light and German Sts., to be leased to Progressive Burlesque Circuit of New York.

Miss., Jackson.—John Livelar, Canton, Miss., opens bids June 2 to erect moving-picture theater; 44x125 feet; one story; cost \$10,000; plans by J. C. Landen, Jackson. (Recently noted under "Bank and Office Buildings.")

Mo., Kansas City.—Manager of Orpheum Theater will, it is reported, award contract June 5 to erect theater at 13th St. and Baltimore Ave.; frontage 100 feet; 20 exits; main floor and two galleries; brick, concrete and steel; exterior native stone; fireproof construction; seating capacity 2500; cost \$250,000; plans by G. Albert Lunsburgh, architect for Orpheum Circuit, New Long Acre Bldg., New York. (Previously noted.)

Tex., Abilene.—W. H. Graham and associates will erect theater, bank and office building. (See "Bank and Office.")

Tex., Dallas.—Dalton Bros. are having plans prepared by I. A. Walker, 901 Southwestern Life Bldg., Dallas, for brick and concrete theater; 50x200 feet; seating capacity 1000; plans ready for bids about June 14. (Recently noted to cost \$125,000.)

Tex., Waco.—C. C. Doyle and T. P. Finnegan of Dallas, Tex., are reported as to erect opera-house; fireproof.

WAREHOUSES

Ky., Louisville.—Wright & Taylor has plans by Brinton B. Davis, Louisville, for warehouse and bottling plant. (See "Miscellaneous Factories.")

La., Mansfield.—Gulf Refining Co., main office, Pittsburgh, Pa., leased tract of 40 acres and will use for warehouses and pipe yards.

Md., Brooklyn.—John H. Gels & Co. will erect warehouse at Baltimore and 2d Sts.

Miss., Cruger.—Cruger Warehouse Co. will be incorporated with \$2500 capital stock by R. W. Downer, C. A. Pritchard, J. F. Rogers and others.

Mo., Kansas City.—J. I. Case Threshing Machine Co., 703-753 State St., Racine, Wis., will erect building at Milwaukee Ave. and Broadway; eight stories; concrete and brick; fireproof; 23x145 feet; cost \$250,000; plans by B. M. Evans, Racine, Wis.; local offices 1416 W. 11th St.

Okla., Tulsa.—Builders' Supply Co. will erect frame warehouse at Cincinnati Ave. and M. K. & T. right of way.

Tex., Dallas.—J. S. Shaw, president, Fort Worth Builders Supply Co., states new company will be Southwestern Distributing Co.; will erect five or six story reinforced concrete fireproof building; cost \$75,000; install two elevators, carrying and loading machinery and scales. (Recently noted.)

Va., Roanoke.—Farmers' Supply Co. has plans by Bates & Hudnall, Roanoke, for building; 50x200 feet; three to five stories; reinforced concrete monolithic construction.

Va., St. Paul.—Carolina, Clinchfield & Ohio Railway, Ward Crosby, chief engineer, Johnson City, Tenn., is considering erection of warehouse and grain elevator.

BUILDING CONTRACTS AWARDED

ASSOCIATION AND FRATERNAL

D. C., Washington.—Ancient Free and Accepted Masons awarded contract to Arthur M. Poynton, 715 14th St. N. W., Washington, to erect home for aged and indigent Masons; 40x100 feet and 34x90 feet; fireproof; terra-cotta floors; cost \$42,300; plans by Kendall & Smith, Southern Bldg., Washington; Mechlin & Starr, Wilkins Bldg., Washington. (Recently noted.)

Md., Hagerstown.—Independent Order of Odd Fellows, Lodge No. 31, W. W. McCauley, secretary, building committee, 201 People's National Bank Bldg., will expend \$50,000 to erect lodge and store building; 41x150 feet; four-story front and three-story rear; fireproof construction; brick; cost of heating plant, \$4500; lighting plant, \$2500; elevator; asbestos roof; plans by Mack & Kountz, Hagerstown; contract recently noted awarded to George B. McWolf. (See "Machinery Wanted.")

BANK AND OFFICE

Vla., Bartow.—Polk County National Bank awarded contract to George W. Muller Bank Fixture Co., Atlanta, Ga., for improvements and addition to bank building; will extend present structure 41½ feet, install tile floors, marble wainscoting, teller's cage, vault 18 feet 2 inches by 17 feet 2 inches, three compartments, one for currency provided with screw door manganese burglar-proof safe; ordinary brick construction; metal roof. (Recently noted.)

Fla., Tampa.—Tampa Electric Co. is reported to have awarded contract to Miller & Hyer to erect office building; two stories at present; additional stories later; cost \$40,000; plans by F. J. Kennard, Tampa. (Lately noted.)

N. C., Fayetteville.—Dr. J. H. Judd awarded contract to E. M. Stevens to erect office and store building recently noted. (See "Stores.")

N. C., Winston-Salem.—Piedmont Amusement Co. awarded contract to remodel and improve Stewart building for office and moving picture theater.

Tex., Buffalo.—Buffalo State Bank awarded contract to S. R. Smith, Lindale, Tex., to erect bank building; 100x27 feet; cost \$6500; plans by S. J. Blocker, Longview, Tex. (Recently noted.)

Tex., Raymondville.—Raymondville State Bank awarded contract to erect brick building; cost \$8000.

CHURCHES

Ark., Tillar.—R. H. Wolf, chairman, building committee, will expend \$10,000 to erect church building; 60x70 feet; ordinary construction; acetylene lighting; composition roof; plans by Clyde A. Ferrell, Little Rock, Ark.; contract recently noted awarded to Monk & Ritchie, Pine Bluff, Ark.

Ky., Somerset.—Christian Church awarded contract to erect building; 85x88 feet; brick veneer; tin roof; cost about \$20,000; plans by J. E. Greene, Columbia, Miss. (Previously noted.)

Ky., Covington.—St. Augustine Roman Catholic Church awarded contract to Jos. Wilbers to erect church building; cost \$60,000; plans by D. Davis, Fosdick Bldg., Cincinnati, Ohio.

Mo., Joplin.—Methodist church awarded contract at \$51,700 to G. W. Miller & Co., Carthage, Mo., to erect church building at 5th and Walnut Sts.

N. C., Winston-Salem.—First Methodist Protestant Church awarded contract to Fogle Bros., Winston-Salem to remodel Church.

Tenn., Covington.—First Methodist Church awarded contract for improvements and addition to church building, including installation of pipe organ; cost \$20,000. Address The Pastor, First Methodist Church.

Tex., Paducah.—Methodist Church awarded contract to erect building; brick veneer; cost several thousand dollars. Address The Pastor, Methodist Church.

CITY AND COUNTY

Ga., Valdosta.—Library.—City awarded contract to Little & Phillips, Cordele, Ga., to erect Carnegie Library; limestone, pressed brick and terra-cotta; copper roof; steam heat; plans by Bishop & Greer, Valdosta. (Previously noted.)

Miss., Leland.—City Hall, etc.—City awarded contract to T. P. Reynolds, Greenville, Miss., to erect city hall and jail; 30x36 feet; one story; brick; asbestos roof; cost \$6500; plans by W. H. Parker, Greenville, Miss. (Recently noted.)

Tex., Bryan-Jail.—Brazos County Commissioners awarded contract at \$6455 to Pauly Jail Building Co., St. Louis, Mo., for steel work in proposed jail building; general contract not awarded; plans by S. J. Fountain, College Station, Tex., call for structure 40x50 feet; fireproof; steam heat; tile roof. (Recently noted.)

COURTHOUSES

Ark., Heber Springs.—Cleburne County Commission awarded contract at \$49,625 to erect courthouse; fireproof; plans by Clyde A. Ferrell, architect, Little Rock, Ark. (Recently noted.)

Ga., Atlanta.—Fulton County Commissioners awarded contracts for interior furnishings of courthouse as follows: Ornamental iron and bronze work, L. Schrieber & Sons Company, Cincinnati, O., \$118,611; marble and tile work, Blue Ridge Marble Co., Nelson, Ga., \$159,500; mill work and glazing, Robert Mitchell Furniture Co., Cincinnati, O., \$644,099; cork flooring, H. W. Johns-Manville Company, \$16,769; painting, William Wilson, \$11,350; sheet metal, Downman-Dozier Company, \$99,416; hardware, Beck & Gregg Hardware Co., \$11,165; elevators, the Otis Elevator Co., \$39,233, all of Atlanta; directory, United States Changeable Sign Co., New York, \$1640; mail chutes, Cutler Mail Chute Co., Rochester, N. Y., \$1550; total estimated cost, \$1,250,000; plans by Morgan & Dillon and A. Ten Eyck Brown, Atlanta. (Other contracts previously noted awarded.)

Tex., Palestine.—Anderson County Commissioners awarded contract at \$148,438 to M. P. Kelley, Gainesville, Tex., to erect courthouse; fireproof; reinforced concrete; steam heat; electric lights; traction elevator; gravel roof; plans by C. H. Page & Bro., Austin, Tex. (Recently noted.)

Va., Tazewell.—Tazewell County Commissioners awarded contract for addition and improvements to courthouse; practically fireproof; low pressure steam heat; electric

lights; metal roof; plans by Andrew J. Bryan, Louisville, Ky. (Recently noted.)

DWELLINGS

Ala., Birmingham.—W. R. Anderson, 2109 Third Ave., awarded contract to J. F. Roberts, 930 W. Eighth Ave., Birmingham, to erect eight-room dwelling; one and one-half stories; fireproof hollow-tile walls; asbestos shingle roof; asbestos sheathing on exterior; plans by E. G. Fallin, 2026 Third Ave., Birmingham. (Recently noted to be constructed by day labor.)

Ala., Birmingham.—Norvell W. Cullom (not Smith Cullom, Jr., as recently reported) has plans by and awarded contract to Joy-Marriott Construction Co., Farley Bldg., Birmingham, to erect dwelling; 10 rooms; frame and stucco; "Nutile" roofing.

Ala., Ensley.—Dr. J. T. Kent awarded contract to Slye & Mosley, 2215 Avenue H, Ensley, to erect eight-room dwelling; wood; fireproof roof; cost \$4500.

Ala., Ensley.—W. A. Jenkins awarded contract to Slye & Mosley, 2215 Avenue H, Ensley, to erect six-room bungalow; furnace; asphalt shingle roof; cost \$2800.

Ala., Eutaw.—W. E. Bennis, Bessemer, Ala., prepared plans for and awarded contract to Mr. Knight to erect residence; cost \$4000.

D. C., Washington.—R. Golden Donaldson, 1706 21st St., awarded contract to John H. Nolan, 1413 G St. N. W., Washington, to erect building at 1702 New Hampshire Ave. N. W.; four stories; cost \$35,000; plans by George Oakley Totten, University Club, Washington.

D. C., Washington.—R. J. Beall Construction Co., 734 15th St. N. W., has contract to erect residence; 45x65 feet; four stories; ordinary construction; cost \$25,000; plans by A. P. Clark, Jr., 816 14th St. N. W., Washington.

D. C., Washington.—Alonzo Bliss, 35 B St. N. W., awarded contract to Randolph Jennings, 116 N St. S. E., Washington, to erect dwelling at 4811 Bladgen St. N. W.; cost \$6200; plans by A. Goenner, 45 Bliss Bldg., Washington.

Fla., Tampa.—Dr. J. H. Mills awarded contract to B. F. Walker & Son, 2810 10th St., Tampa, to erect dwelling; 31½x68 feet; stucco outside; electric lights; slate roof; cost \$3750; plans by Bonfoey & Elliott, Tampa.

Ga., Atlanta.—P. S. Arkwright awarded contract to C. E. Bowen, Atlanta, to erect dwelling; two stories; brick; cost \$20,000; plans by W. F. Downing, Grant Bldg., Atlanta. (Recently noted.)

Ga., Gainesville.—Dr. E. T. Gibbs awarded contract to A. H. O'Shields, Gainesville, to erect dwelling; eight rooms; ordinary or mill construction; electric lighting; slate roof; cost \$6000; plans by J. Frank Moorefield, Gainesville. (Recently noted.)

Ky., Louisville.—M. F. Harmon, 2512 W. Walnut St., awarded contract to Dowell & Rose, 1416 S. 18th St., Louisville, to erect two-story, eight-room dwelling. (Recently noted to cost \$3000.)

Ky., Shelbyville.—Charles W. Guthrie awarded contract to Gruber & Boss to erect residence.

Md., Baltimore.—A. D. Clemens, 3019 York Rd., awarded contract to A. D. Clemens, Jr., 3019 York Rd., Baltimore, to erect seven dwellings on Talbot St.; two stories; brick; 12x24 feet; cost \$5600; plans by F. J. Peterson, 3219 Abell Ave., Baltimore.

Md., Baltimore.—Miss Mary Malloy has plans by and awarded contract to Arthur Nicholson, Fernside Ave., near Norwood Ave., Baltimore, to erect residence on Elmondson Ave., near Old Orchard Rd., Ten Hills; cost \$7000.

Mo., Kansas City.—J. R. Woodworth awarded contract to L. S. Nickerson, 1115 E. 23d St., Kansas City, to erect residence at 211 W. 53d St.; two stories; 50½x40½ feet; ordinary construction; vitrified brick; cut stone trimmings; cost \$16,000; plans by Root & Siemens, 1200 Scarritt Bldg., Kansas City. (Recently noted.)

N. C., Asheville.—Frank A. Mears has contract to erect eight-room Dutch colonial residence; mill construction; hot-water heat; electric lighting; Spanish metal tile roof; cost \$4000; plans by Mr. Mears. (See "Machinery Wanted.")

N. C., Greensboro.—Waldo Porter awarded contract to W. B. Enoch, Greensboro, to erect six-room dwelling; cost \$4000; plans by J. W. Petty. (Recently noted.)

N. C., Lexington.—Erlanger Cotton Mills awarded contract to J. W. Tussey to erect 50 operatives' dwellings, and will later award contract to erect 30 more.

N. C., Salisbury.—Bernhardt estate award-

ed contract to C. P. Foster, Salisbury, to erect two bungalows on South Long St.

N. C., Salisbury.—J. C. Mason awarded contract to C. P. Foster, Salisbury, to erect residence; two stories; six rooms.

N. C., Winston-Salem.—J. W. Smitherman awarded contract to W. A. Fletcher to erect two-story frame shingle roof dwelling equipped with city water and sewer connections, electric lights, etc.; also to erect stable; cost \$3500.

N. C., Winston-Salem.—J. W. Walker awarded contract to J. E. Kennerly to erect dwelling; two stories; nine rooms; frame; metal roof; city water and sewer connections; gas and electric lights; cost \$4000.

N. C., Winston-Salem.—Chatham & Eller awarded contract to A. H. Wall, Winston-Salem, to erect residence on Liberty St.; three stories and basement; brick.

Okla., Oklahoma City.—R. Lee Sharp awarded contract to Frank Brown to erect two-story frame dwelling at 137 E. 12th St.; cost \$3000.

Okla., Tulsa.—J. Truman Nixon awarded contract to James Coles of Tulsa to erect two dwellings; one 30x53 feet; interlocking hollow-tile construction; cost \$7500; and one 25x47 feet; frame; cost \$4000; both to have interlocking galvanized iron shingles; plans by George Winkler, Palace Bldg., Tulsa. (Recently noted.)

Tenn., Memphis.—Mrs. A. F. Francis awarded contract to E. M. Apperson to erect residence and store at 3d St. and Walker Ave.; cost \$6000.

Tenn., Memphis.—E. E. Buxton awarded contract to W. T. Hudson to erect residence at 43 S. Auburndale St.; cost \$5000.

Tenn., Memphis.—G. W. Fisher awarded contract to J. B. Moody to erect four dwellings at 1079-83-89-95 James St.; cost \$8000.

Tenn., Memphis.—Miss M. Manley awarded contract to Roy B. Neil to erect residence at 25 Goodwin Pl.; cost \$3500.

Tenn., Memphis.—L. McCaughan awarded contract to Thomas James to erect residence at 267 Garland Pl.; cost \$4000.

Tenn., Memphis.—James Quinlan awarded contract to J. E. Cole to erect residence at 1276 Jefferson Ave.; cost \$3000.

Tenn., Memphis.—Mrs. J. W. McKinnle awarded contract to S. G. Wilson to erect residence at 1114 Eastmoreland Ave.; cost \$6000.

Tenn., Memphis.—Dr. Max Henning, 922 Memphis Trust Bldg., will expend \$20,000 to erect dwelling; eight rooms; brick veneer; tile roof; plans by John Galsford, Memphis; contract recently noted awarded to Tom Turpin.

Tenn., Nashville.—Charles W. Starr awarded contract to W. A. Brown to erect dwelling at 712 Eighteenth Ave.; 28x39 feet; brick veneer; two stories; hot-air heat; gas and electric lights; metal roof; cost \$4000. (Recently noted.)

Tex., El Paso.—Gus Mosen awarded contract to Phoenix El Paso Building Co., El Paso, to erect residence at Cotton and Magnolia Aves., except brick and masonry work, for which contract was awarded to H. T. Ponsford; cost \$9000.

Tex., Houston.—J. M. Helm, 2817 Baldwin St., has plans by and awarded contract to R. Joyce Hughes, First National Bank Bldg., Houston, to erect eight-room dwelling; reinforced concrete; cost \$3000. (Recently noted.)

Va., Norfolk.—M. P. Hofheimer awarded contract to Turpin Bros., Norfolk, to erect dwelling; hot-water heat; cost \$9000; plans by Wickham C. Taylor, 401 Citizens' Bank Bldg., Norfolk. (Turpin Bros. recently noted as lowest bidders.)

Va., Norfolk.—Farrant Investment Corporation will erect treble brick residence at 706-708 Wide St.; cost \$3000; contract awarded to G. F. Wilkinson.

W. Va., Martinsburg.—Tuscarora Realty Co. awarded contract to R. M. Dehaven, Martinsburg, to erect seven tenement houses at Center and Eulalie Sts. for Dr. C. A. Thomas.

HOTELS

Ark., Little Rock.—Gleason Hotel awarded contract to S. M. Apple, Little Rock, to repair hotel; hot-water heating plant; cost \$25,000; plans by George M. Bornell. (Previously reported damaged.)

S. C., Spartanburg.—J. B. Cleveland and W. E. Burnett awarded contract to Charles L. Rounds Construction Co. to erect additional story to building now under construction and will equip for hotel.

W. Va., Keyser.—Amos Roby, Piedmont, W. Va., awarded contract to Henry F.

Smith, Piedmont, W. Va., to erect addition to Central Hotel; eight rooms.

MISCELLANEOUS

Fla., Tampa.—Clubhouse.—Tampa Yacht and Country Club awarded contract to W. H. Cooley & Co. to remodel and improve clubhouse according to plans by F. J. Kennard, Tampa; will extend dining-room to length of 52 feet, construct outdoor sleeping quarters, etc.; cost \$4000.

RAILWAY STATIONS, SHEDS, ETC.

Md., Baltimore.—Western Maryland Railway Co., H. R. Pratt, chief engineer, Hillen Station, awarded contract to Cowan Building Co., 196 W. Madison St., Baltimore, for improvements to Hillen Station, to include erection of addition, remodeling present structure, construction of shed and concourse, redecorating, installing sanitary plumbing equipment, etc.; cost about \$70,000; plans by Emory & Nusser, Professional Bldg., Baltimore. (Previously noted.)

Mo., St. Louis.—Terminal Railroad Association awarded contract to St. Louis Unit Construction Co., St. Louis, to erect station at south side Eads Bridge roadway; two stories and basement on 3d St.; three stories on Washington St.; reinforced concrete, with glazed terra-cotta exterior; white tile floors and wainscoting; concrete roof; umbrella shelter with concrete columns; iron brackets to carry concrete roof; glass canopy; cost \$60,000; plans by H. J. Pfeiffer, engineer M. W. of association. (Recently noted.)

S. C., Greer.—Greenville, Spartanburg & Anderson Railway Co., W. S. Lee, vice-president, Charlotte, N. C., awarded contract to Wilkerson-Moffitt Construction Co., Durham, N. C., and Greenville, S. C., to erect combination passenger and freight station; white pressed brick; tile roof; cost \$15,000.

S. C., Spartanburg.—Charlotte & Western Carolina Railway, J. B. Cleveland, president, awarded contract to Slattery & Henry, Greenville, S. C., to erect freight depot; 40x300 feet; cost \$12,500; materials purchased.

SCHOOLS

Ala., Bessemer.—St. Aloysius Catholic School awarded contract at \$13,831 to William F. Nolan to erect school building; two stories; brick; galvanized shingle roof; 100 feet deep; steam heat; plans by W. E. Bennis, Bessemer. (Recently noted.)

Ala., Guin.—City awarded contract to L. Davis Construction Co., Montgomery, Ala., to erect school; six rooms and auditorium.

Ky., Harlan.—City awarded contract at \$14,500 to F. F. Cawood, Harlan, to erect school, exclusive of heating, plumbing and fixtures.

La., Dubach.—Lincoln Parish School Board, Ruston, La., awarded contract at \$11,269 to W. A. Prather, Memphis, Tenn., to erect two-story school; plans by Smith & Barthel, Monroe, La.

Md., Baltimore.—Johns Hopkins University awarded contract to Dietrich Bros., Pleasant and Davis Sts., Baltimore, for steel work for Gilman Hall, for which general contract was awarded to Edward Brady & Sons, 1113 Cathedral St., Baltimore; three stories; concrete and brick; main portion 128x202 feet; wings 32x163 and 80x40 feet; cost about \$300,000; plans by Parker, Thomas & Rice, Union Trust Bldg., Baltimore. (Recently noted.)

Miss., Woodville.—Wilkinson County Agricultural School Trustees awarded contract to Burkes Construction Co., Hattiesburg, Miss., to erect school and dormitory building; brick; asbestos shingle, felt, tar and gravel roof; cost \$35,000; heating plant, \$4000; lighting plant, \$800; owners will furnish cement, brick, lime, rough lumber, sand and gravel; contractor to furnish steel roofing material and finish lumber; plans by Overstreet & Spencer, Jackson, Miss. (Recently noted.)

Mo., Bolivar.—Southwest Baptist College awarded contract at \$25,764 to C. C. Clepper Construction Co., Claremore, Okla., to erect college building; 100x50 feet; red brick; white cut stone trimmings; ordinary construction; electric lights; steam heat; plans by Clifton B. Sloan, Kansas City, Mo. (Recently noted.)

Md., Halethorpe.—Baltimore County School Board, Towson, Md., awarded contract at \$13,222, to Henry Nagle, Catonsville, Md., to erect school, and at \$849 to Wells & Newton Company, 547 Equitable Bldg., Baltimore, Md., for heating equipment. (Recently noted.)

Mo., Louisiana.—School district has plans by and awarded contract to Ralph Stewart, Louisiana, to erect high-school building;

fireproof construction; cost \$42,000. (Bond issue recently noted voted.)

N. C., Charlotte.—City awarded contract to J. A. Newton to erect Hoskins School; eight classrooms; cost \$12,000.

S. C., Aiken.—Aiken Institute awarded contract to Palmer & Magruder, Augusta, Ga., to erect building; two stories and basement; brick; cost \$30,000; plans by G. Lloyd Preacher, Augusta, Ga. (Recently noted.)

Tex., Fowlerton.—Lasalle county awarded contract to Brown & Brown, San Antonio, Tex., to erect school; two stories; brick; six classrooms and auditorium; D'Hanis pressed brick; cost \$12,500; plans by Sutherland & Co., Laredo, Tex. (Recently noted.)

Tex., Raymondville.—City awarded contract to H. L. Fitch, Brownsville, Tex., to erect school; two stories and basement; six rooms; fireproof construction; cost \$10,000; plans by V. L. Conrad, Raymondville. (Recently noted.)

W. Va., Eckman.—Brown's Creek school district of McDowell county, Henry K. Barbe, district superintendent, Welch, W. Va., awarded contract to Hampton & Robnett, Tazewell, Va., to erect building for Eckman and Davy schools; six rooms; brick; ordinary construction; cost \$9,000; plans by W. B. Smith of Huntington, W. Va. (Recently noted.)

W. Va., Twin Branch.—Brown's Creek school district of McDowell county, Henry K. Barbe, district superintendent, Welch, W. Va., awarded contract to Hampton & Robnett, Tazewell, Va., to erect six-room frame building; ordinary construction; cost \$5,000; plans by W. B. Smith, Huntington, W. Va.; recently noted. (See "Machinery Wanted.")

STORES

Ark., Helena.—S. H. Kress & Co., 350 Broadway, New York, will expend \$35,000 to erect 5, 10 and 25-cent store; 44x132 feet; two stories and basement; mill construction; steam heat; hand-power elevator; gravel roof; plans by Seymour Burrell of New York; contract recently noted awarded to F. L. Graham, Little Rock, Ark., present address, Box 725, Helena.

Ark., Tillar.—Tillar Mercantile Co. and R. W. Harrell will expend \$25,000 to erect store and bank building; 195x110 feet; ordinary construction; acetylene lighting; composition roof; cost \$25,000; plans by Clyde A. Ferrell, Little Rock, Ark.; contract recently noted awarded to Monk & Ritchie, Pine Bluff, Ark.

D. C., Washington.—J. C. Walker, 1123 Connecticut Ave. N. W., awarded contract to S. J. Prescott Company, 814 13th St. N. W., Washington, to erect store building at 5 and 6 Dupont Circle; two stories; ordinary construction; limestone front; 40x120 feet; refrigerating plant; small freight elevator; cost \$25,000; plans by Appleton P. Clark, Jr., 816 14th St. N. W., Washington. (Recently noted.)

D. C., Washington.—Iris Realty Association, 401 8th St. S. E., awarded contract to W. T. Polen to erect four brick stores; 59½x53 feet; ordinary construction; cost \$5,000; plans by R. S. Hunt, 817 C St. S. E., Washington. (Recently noted at Anacostia, D. C.)

Fla., Jacksonville.—Ricker & Mangels awarded contract to W. V. Henry, 1528 Walnut St., Jacksonville, to erect business building; 40x60 feet; brick; cost \$7,000; plans by W. M. Marsh, 403 Main St., Jacksonville.

Ga., Atlanta.—Mrs. L. J. Bowle will erect building to be occupied by Dougherty-Little-Redwine Company at 92 S. Pryor St.; four stories; cost \$29,000; awarded contract to Donaldson & Pearson, Atlanta; plans by Haralson Bleckley, Atlanta.

Ga., Atlanta.—Eugene V. Haynes awarded contract to Hard & Worm, Atlanta, to improve store building at 49 Whitehall St.; cost about \$10,000; plans by Hentz & Reid, Atlanta.

Md., Hagerstown.—Independent Order of Odd Fellows, Lodge No. 31, W. W. McCauley, secretary, building committee, 301 People's National Bank Bldg., awarded contract to erect store and lodge building. (See "Association and Fraternal" and "Machinery Wanted.")

N. C., Fayetteville.—Dr. J. H. Judd awarded contract to E. M. Stevens to erect store and office building. (Recently noted.)

Tenn., Knoxville.—Mrs. M. J. Condon, Laurel, Ala., awarded contract to Thomas & Turner to erect addition to store building for Muhlen & Chambliss Company; 25x115 feet; brick; metal ceiling; metal roof; steam-heating plant to cost \$350; electric current from Railway & Light Co.; cost \$350. (Recently noted.)

Tenn., Memphis.—Mrs. A. F. Francis awarded contract to erect store and residence. (See "Dwellings.")

Tex., Cleburne.—Scott Bros. awarded contract to J. A. Thomas, Cleburne, to erect store building; 63x105 feet; two stories; ordinary construction; gravel roof; cost \$11,000. (Recently noted.)

Tex., Conroe.—S. K. Halley will expend \$3,000 to erect store; 37x50 feet; brick; contracts let to Mr. Hinchliff for brick work and to Mr. Hayes for wood work; plans by W. L. Strickland of Conroe. (Recently noted.)

Tex., Cameron.—C. F. Fahrendorf awarded contract to Ernest Eggert to erect building; brick; 30x100 feet; cost \$9,000.

Tex., Rockdale.—B. Lowenstein awarded contract for improvements to store building occupied by Rockdale Mercantile Co.; plate glass and marble front, etc.; cost \$4,000.

Tex., Victoria.—L. A. Fritz and Victoria Improvement Co. awarded contract to Bailey Mills Co., Victoria, to erect business building; 87x105 feet; ordinary construction; hot-water heat; 6x8 feet freight hand elevator; cost \$32,000; plans by Hull & Praeger, Victoria. (Recently noted.)

Tex., Waco.—Mrs. John D. Streeter, Box 1069, awarded contract to J. E. Johnson to erect semi-fireproof hotel; four stories; cost \$40,000; plans by Roy E. Lane. (Recently noted.)

THEATERS

D. C., Washington.—W. B. Avery, 632 G St. N. W., Washington, has contract to erect brick moving-picture theater on H St., between 6th and 7th Sts. N. E.; 56x144 feet;

front of red colonial brick; stucco and galvanized iron trimmings; fireproof; lobby 36x36 feet; cost \$20,000.

Md., Baltimore.—Eureka Amusement Co. awarded contract, it is reported, to W. F. Welsh, Gaither Bldg., Baltimore, to erect addition on rear of building at Scott and Ramsay Sts.; one story; 32x43x20 feet; cost \$65,000.

N. C., Winston-Salem.—Piedmont Amusement Co. awarded contract to T. A. Butler, Winston-Salem, to remodel and improve Stewart Bldg. for moving-picture theater and office building; will install marble front, indirect lighting system, inclined floor, etc.; three upper floors for offices. (Previously noted.)

Tex., Corsicana.—Will Herman awarded contract to Berry & Metcalf, Corsicana, to erect \$30,000 air-dome; brick walls.

Tex., Corsicana.—Will Herman awarded contract to Berry & Metcalf to erect air-dome; brick; cost \$35,000.

WAREHOUSES

Md., Baltimore.—Schuster & Co., 414 N. Howard St., awarded contract to Henry Pierson & Son, 1000 Olive St., Baltimore, to erect three-story building at 414 N. Howard St.; brick; 24x25.5 feet; ordinary construction; cost \$3,000.

N. C., Lexington.—Erlanger Cotton Mills awarded contract to W. Lee Harbin, Lexington, to erect warehouse; standard construction; cost \$10,000.

Tenn., Memphis.—J. R. Watkins Medicine Co. awarded contract to Haglen Stahl Company to erect warehouse at 74 W. Iowa Ave.; cost \$100,000.

RAILROAD CONSTRUCTION

RAILWAYS

Ala., Alexander City.—Several miles of grading are reported completed on the Montgomery & Chattanooga Railroad from Alexander City toward Benson, Ala., 16 miles south, the next objective point being Eclectic, 12 miles farther. O. J. Pruitt of Montgomery, Ala., is contractor. Benjamin Russell of Alexander City and others are reported interested, including Wm. E. Benson, president of the Dixie Industrial Co.

Ark., Dierks.—The De Queen & Eastern Railroad, says a report, contemplates construction of an extension from Dierks to Daisy, Ark., about eight miles, to connect with the Prescott & Northwestern Railroad. Hans Dierks is president at Kansas City, Mo.

Ark., Harrisburg.—The Tschudy Lumber Co. of Memphis is surveying for a railroad to get out timber for its new mill at Harrisburg.

Fla., Pensacola.—President Henry McLaughlin of the Pensacola, Mobile & New Orleans Railroad Co., says a local report, has sold \$250,000 of bonds of the company, which assures completion of the line now under construction from Pensacola to Mobile.

Fla., Pensacola.—President W. P. Dickinson of the Memphis & Pensacola Railroad Co., Chicago, is quoted saying that construction between Meridian, Miss., and Memphis, Tenn., will begin early in the summer and that an English syndicate has underwritten the bonds. Materials have been bought for the first 50 miles. Other directors are J. H. Sullivan of Memphis, Tenn.; J. M. McBeath of Meridian, Miss.; J. T. Thomas of Grenada, Miss., and Milton Smith of Moorhead, Miss. Construction out of Pensacola has been in progress for a month or so.

Ga., Athens.—Reported that English capital has been interested to build the long-proposed electric railway from Atlanta via Athens to Augusta, Ga., about 180 miles, and work is expected to start this summer. The Chamber of Commerce at Athens may give information.

Ga., Augusta.—President James U. Jackson of the Carolina & Georgia Railway Co. is quoted saying that Michael P. McGrath of Worcester, Mass., to whom was awarded the contract to build the line, will return to Augusta within 10 days and work will begin almost immediately.

Ga., Letford.—The Savannah & Southern Railway, according to a report quoting Stewart Starr, its general manager, will extend immediately from Norden to Lanier, the work to be done in six weeks. W. G. Tuten is president at Letford, Ga. Survey is made for the extension from Willie to Glenville, 16 miles.

Ga., Savannah.—The Brinson Railway Co. informs the Manufacturers Record that extensive improvements, including the reduction of grades and the laying of heavier

rails, are to be made to the property, in which about \$1,000,000 additional will be invested. James Imbrie, 45 Broadway, New York, is chairman of the board, and J. F. Wallace, also of that city, is consulting engineer. George M. Brinson, Springfield, Ga., is president. Extensions may be made.

Ga., Thomasville.—The Atlantic Coast Line is reported surveying for the construction of an entirely new piece of parallel track between Thomasville and Metcalfe, 14 miles, and for the rebuilding of the present track from Metcalfe to Monticello, 10 miles, this in connection with the proposed construction of a line from Monticello to Perry, Fla., on its projected west coast route to and from Tampa. E. B. Pleasants is chief engineer and D. W. Gross is engineer of construction, both at Wilmington, N. C.

Ga., Waycross.—The Waycross & Western Railway is reported complete to Mexico, 27 miles, and expects to be done as far as Sirmans in July. A. K. Sessions of Waycross is president.

Ky., Beaver Creek.—The Baltimore & Ohio Railroad Co. has acquired the charter of the Long Fork Railroad Co., which owns a location for a railroad on the left fork of Beaver Creek, which line when constructed will develop about 100,000 acres of coal lands owned by the Elkhorn Fuel Co., and from 6,000 to 8,000 acres owned by the Milwaukee Coal & Gas Co. The railroad company says it is not yet decided when construction will begin. F. L. Stuart, Baltimore, Md., is chief engineer. Reports from the vicinity of the location say that such a road would be about 30 miles long.

La., Alexandria.—The Louisiana Sawmill Co., J. E. Crawford, president and manager, will, it is reported, award contracts for construction of a standard-gauge lumber railroad 12 miles long to connect its mill at Glenmora, La., with its timber holdings.

La., Belle Helene.—The St. Elmo, Belle Helene & Louisiana Eastern Railroad Co., says a report, has laid 12 miles of track and one-half mile more will complete its line from St. Elmo, opposite Donaldsonville, to Gonzales, on the Louisiana Railway & Navigation Co.'s railroad. George W. Reese is president, and B. A. Webb, chief engineer, 432 Audubon Bldg., New Orleans, La.

La., New Roads.—The New Orleans, Texas & Mexico Railway (Frisco lines), it is reported, will build a branch from Mix to New Roads, four miles. F. G. Jonah, St. Louis, Mo., is chief engineer.

Md., Hagerstown.—The Cumberland Valley Railroad Co., according to a report, will spend several millions of dollars in the next year or two for various purposes thus: Raising its tracks through Hagerstown, erecting a new passenger station, building a low-grade line from Hagerstown to Martinsburg, W. Va., and a four-tracked concrete bridge over the Potomac River two miles

south of Williamsport, Md. Construction of bridge, it is said, will begin soon. G. C. Koons is engineer at Chambersburg, Pa.

Miss., Corinth.—Charter has been granted to the Corinth & Northeastern Railway Co. for its proposed line from Corinth, Miss., northeast to the Tennessee River at or near Hamburg, Tenn., about 18 miles. Survey is about to begin. The directors are Abe Rubel, Russell Dance, G. A. Hazard, H. N. Young, J. A. McAmis, W. D. Conn, R. L. Young, W. E. Small and CLOPTON Thomas.

Mo., Kansas City.—Grading has begun on two passenger coach yards to be used in connection with the new Union Station. One will have 30 tracks and the other 27 tracks. They are half a mile out on the main line at Delitz Hill. J. V. Hanna, Kansas City, is chief engineer.

Mo., Springfield.—W. T. Tyler, general manager of the Frisco system, Springfield, Mo., is quoted saying that the Clinton branch, connecting Springfield with Kansas City, will be rebalanced and 75-pound rails will be laid.

N. C., Hayesville.—Clay county, says a report from Hayesville, has voted \$75,000 to aid construction of the proposed Hiwassee Valley Railroad from Andrews to Hayesville, 22 miles. Another election is to be held June 2 at Andrews and in Valleytown township for a like amount. On June 4 the incorporators are to meet at Hayesville to organize and arrange for survey. J. Q. Barker, Andrews, N. C., may give further information.

N. C., Kenansville.—L. A. Bessley, Kenansville, says that the \$10,000 recently voted in Kenansville township is in the nature of a bonus to be used to aid construction of a railroad which may be built by any railroad company from Warsaw to Kenansville, 8 miles. This can be given by the County Commissioners of Duplin County under contract. Other inducements will be offered.

Okla., Cheyenne.—The Cheyenne Short Line Railroad is reported to have five miles of grade completed on its 7½-mile line from Cheyenne to Strong City on the Clinton, Oklahoma & Western Railway. Tracklaying is to begin immediately and the contractor, Levy & Levy Company of Muskogee, is to have the line finished by August 1.

Okla., Tulsa.—The Frisco system denies a recent press report that it would begin construction of new terminals in West Tulsa within 60 days.

S. C., Sumter.—The Northwestern Railway of South Carolina, says a report, will build a 12-mile branch from Seal's Sliding to Rose Hill plantation. Thomas Wilson is president and superintendent at Sumter, S. C.

Tenn., Bristol.—Officers of the Bristol Board of Trade are quoted as announcing that survey has been completed and blueprints made of the proposed belt line railroad. The secretary may give information.

Tenn., Chattanooga.—C. H. Smith of Chattanooga and others propose to build an 18-mile railroad to handle the product of proposed coal mines seven miles east of Tracy City, Tenn., and near Whitwell, on the Cumberland Mountain.

Tenn., Chattanooga.—J. W. Adams of Chattanooga and associates, who are promoting the Chattanooga-Cleveland Interurban Railway, will, it is now stated, build lines from Chattanooga to Cleveland and Dayton, Tenn.; Dalton, Ga., and Bridgeport, Ala. Subscriptions are being solicited in the various towns.

Tenn., Knoxville.—The Knoxville Board of Commerce, it is announced, has undertaken the work of obtaining right of way for the proposed belt line railroad.

Tenn., Memphis.—Contract for construction of the new Memphis terminal of the Illinois Central Railroad is awarded to the James Alexander Construction Co. of Memphis at \$500,000. Work is to begin June 15. A. S. Baldwin, Chicago, Ill., is chief engineer for the railroad.

Tenn., Sequatchie.—The Silica Roofing & Construction Co. of Tracy City is reported to have a contract for the construction of a one-mile railroad from Pryor Ridge to Johns Ridge coal developments.

Tenn., Tullahoma.—Information is received by the Manufacturers Record that the Tullahoma, Lynchburg & Fayetteville Railway Co. has ordered a new survey to be made via Awalt, in Franklin county, Tennessee, for its proposed standard-gauge steam railroad, 31 miles long. G. M. Whitson, Tullahoma, Tenn., is chief engineer.

Tex., Austin.—A. B. Axtell, chief engineer of the Guadalupe Traction Co., is quoted saying that he is ready to begin work on the proposed line from Austin to Lockhart, Seguin and San Antonio, 92 miles.

Tex., Ennis.—E. M. Thomas, A. L. Berg and E. Raphael of Ennis, says a report, are working on plans for the construction of a railroad from Ennis to connect with the Trinity & Brazos Valley Railway at either Bardwell or Enhouse, Tex., and a bonus of \$30,000 is being raised.

Tex., Temple.—The Gulf, Colorado & Santa Fe Railway, it is reported, has let contract to the Morey-Faulhaber Construction Co. of St. Louis to revise several grades on its line between Temple and Cleburne, Tex., including Pendleton, Peach Orchard and Meridian Hills. Work is to begin immediately. F. Merritt, Galveston, Tex., is chief engineer.

Tex., Temple.—Charter is filed at Austin for the proposed Temple, Northwestern & Gulf Railway, which is to run from Temple northwest through Bell, Hamilton, Coryell, Comanche and Erath counties to Dublin, Tex., about 100 miles. J. F. Wolters of Houston, Tex., who filed the charter, is quoted as saying that the line will be built without delay, and ultimately it may be extended to the Gulf of Mexico. Headquarters at Temple, Tex. The Temple Northwestern Railroad, which is partly constructed, is to be taken over. Incorporators are John H. Thompson, James F. Sadler, Jr., Jonathan Lane, A. S. Vandevoort, J. R. Thompson, R. O. Fuhrer and Wm. A. Vinson, all of Houston; W. S. McGregor, W. F. McGregor and J. H. McGregor of Temple, Tex.

Va., Richmond.—The Atlantic Coast Line is reported buying real estate in the vicinity of 8th, 9th and Arch Sts. to increase its yard facilities. E. B. Pleasants, Wilmington, N. C., is chief engineer.

Va., Suffolk.—A movement is on foot, according to a local report, to build a belt line railroad in Suffolk. The Mayor may be able to give information.

W. Va., Morgantown.—W. S. Barstow of Barstow & Co., engineers, 50 Pine St., New York, is reported saying that extensive improvements to the property of the West Virginia Traction & Electric Co. are contemplated, but that plans are not ready. H. R. Warfield, Wheeling, W. Va., is president.

W. Va., St. Albans.—F. M. Littleton, John W. Miller and others are reported forming a company to extend the electric railway from St. Albans to Windfield, about 12 miles.

STREET RAILWAYS

Ala., Birmingham.—The Birmingham Railway, Light & Power Co. plans to build an extension of its street railway to Lewisburg, a suburb.

Ark., Little Rock.—The Mayor has vetoed the recently granted franchise of the Little Rock, Pine Bluff & Eastern Traction Co., which was represented by T. M. Mehaffy of Little Rock.

Ga., Covington.—R. C. Guinn, general manager Covington and Oxford Street Railway Co., says that it is proposed to build three miles from Covington to Oxford, Ga. Plans have not been fully arranged.

La., Monroe.—The Monroe Street Railway proposes to build an extension.

Tenn., Clarksville.—The Clarksville Street Railway Co. is reported contemplating an extension to Dunbars Cave.

Tenn., Memphis.—The Memphis Street Railway Co. proposes to extend its car line on Lane Ave. from Claybrook to Evergreen St. T. H. Tutwiler is president.

Tex., Waxahachie.—J. F. Strickland of Dallas, president of the Southern Traction Co., is quoted saying that construction of a street railway in Waco will begin immediately. About four miles of track are to be laid.

Coal.—C. H. Lindsey, superintendent Citronelle Light, Ice & Power Co., Mobile, Ala.—Prices on steam coal for electric-light and ice plant.

Coal and Ash-handling Machinery.—Proposals in duplicate received until June 24 for installation of addition to coal and ash-handling machinery in old postoffice building, 8th and E Sts. N. W., Washington, D. C. In accordance with specifications, copies of which are obtainable from chief clerk of the department; award will be made of contract, subject to appropriation by Congress; Lewis C. Laylin, assistant secretary.

Concrete Buggies.—W. P. Kennedy, Pensacola, Fla.—Ten new or second-hand Ransom concrete buggies (or similar make).

Concrete Seawall.—Proposals, endorsed "Proposals for Seawall," received at Bureau of Yards and Docks, Navy Department, Washington, D. C., until June 21, then publicly opened, for seawall at Engineering Experiment Station, Annapolis, Md.; amount available \$50,000; plans and specifications (No. 1978) obtained on application to bureau upon receipt of \$10 deposit. Wm. M. Smith, Acting Chief of Bureau.

Comb Manufacturers.—L. H. Dancy, Holly Springs, Miss.—Correspondence with manufacturers relative to manufacturing patented fountain comb in 100 or 500 lots.

Copper Roofing.—Postoffice Department, Washington, D. C.—Proposals received at office of chief clerk and superintendent until June 14 for repair of copper roof of Postoffice Department; specifications obtainable on application to chief clerk and superintendent; A. S. Burleson, Postmaster-General.

Crates.—Luray Supply Co., Luray, Va.—One to five cars egg crates; knocked down or set up, with fillers.

Crematory (Garbage).—Lee Daniel, 402 American National Bank Bldg., Pensacola, Fla.—Prices on garbage crematory for city of 30,000 inhabitants. (Recently noted.)

Derrick.—Mississippi River Commission, Liggett Bldg., St. Louis, Mo.—Proposals for construction and delivery of steel derrick and machinery received until June 18. Information on application. Clarke S. Smith, Major, Engineers, Secretary.

Drainage Construction.—Bids received June 11 for construction of about 10 miles drainage canals, yardage 262,000, Parkville Drainage District No. 1, Elizabeth City, N. C.; Walter Sharp, chairman Drainage Commissioners, Norfolk, Va.; R. R. Eagle, superintendent of construction, Newbern, N. C.

Dredging Plant.—U. S. Engineer Office, Jacksonville, Fla.—Proposals received until June 23 for hire of hydraulic dredging plant in Indian River, Florida. Information on application. J. R. Slattery, Major, Engineers.

Dredging.—U. S. Engineer Office, Jacksonville, Fla.—Proposals received until June 24 for dredging in St. John's River below Jacksonville. Information on application. J. R. Slattery, Major, Engineers.

Drum (Packing Drum) Machinery and Material.—Glenwood Grain & Feed Co., Greensboro, N. C.—Information and prices on machinery and raw material for manufacture of banana drums.

Dryer.—W. F. Schierholz, 1023 Holland Bldg., St. Louis, Mo.—Equipment for continuous process dryer for wood fiber. Give prices and information.

Electrical Equipment.—C. H. Lindsey, superintendent Citronelle Light, Ice & Power Co., Mobile, Ala.—Prices on watt meter for electric-light plant.

Electric Fixtures.—W. W. McCauley, 201 People's National Bank Bldg., secretary Building committee Independent Order of Odd Fellows, Hagerstown, Md.—Prices on electric fixtures for \$50,000 store and lodge building.

Electric-light Plant.—Pearson Manufacturing Co., J. Corbett, president, Pearson, Ga.—Prices on necessary electrical machinery for small lighting plant for 200 lights.

Electrical Machinery.—City of Aliceville, Ala.—Prices on new or second-hand 4-horse-power and 12-horse-power 60-cycle single-phase 110 or 220-volt motor; William F. Wolf, City Engineer.

Electrical Equipment.—See "Quarrying Equipment."

Electrical Machinery.—J. Newton Johnston, Florence, S. C.—Prices on motors and electric pumps.

Electrical Machinery.—Twin City Ice, Light & Power Co., B. A. Little, manager, McCurtain, Okla.—Generator, 40 to 60 kilowatts, alternating current, complete, with switchboard, etc.

Electrical Machinery.—Atkins Elec-

tric & Power Co., W. H. Jones, president, Atkins, Ark.—Will purchase transformers.

Elevators.—Department of Interior, Washington, D. C.—Proposals in duplicate received until June 20 for installation of two electric passenger elevators in Patent and old Postoffice buildings, 7th and F Sts.; installations of enclosures; excavating, cutting and brick and steel work for same; Lewis C. Laylin, Assistant Secretary.

Elevator.—McGinley Bros. Co., Harry P. McGinley, secretary, West Palm Beach, Fla.—Prices on freight elevator.

Engines.—See "Machinery, etc."

Engine.—See "Boiler and Engine."

Engines.—Twin City Ice, Light & Power Co., B. A. Little, manager, McCurtain, Okla. Prices on engines.

Excelsior Machinery.—Wm. Monroe, Fort Smith, Ark.—Second-hand improved 1907 model Lewis P. Kline horizontal excelsior machine.

Fan.—Dr. J. Weldon Smith, R. F. D. No. 1, Farmville, Va.—Small suction fan to be operated by belt power.

Fire Hose.—City of Columbia, S. C., receives bids until June 12 for furnishing 200 feet of fire hose; C. F. Cooper, City Clerk.

Fire Hose.—Proposals received at office of undersigned, Atlanta, Ga., until June 7 for furnishing fire department with 1300 feet of cotton, rubber-lined standard fire hose, 2½ inches internal diameter, in lengths of 50 feet each, coupled complete with standard fire department couplings, Higbee thread; date of delivery to be stamped on couplings; hose to be delivered free on board at Atlanta, Ga., within 40 days after award of contract; guarantee as to length of service and pressure on delivery must accompany bid; J. H. Goldsmith, City Comptroller.

Ferryboat.—Navy Department, Bureau of Supplies and Accounts, T. J. Cowie, Paymaster-General, Washington, D. C., opens bids June 17 for furnishing ferryboat, schedule 5510; delivery Navy-yard, Annapolis, Md.; for copies apply to navy pay office nearest navy-yard.

Filtration Plant.—Proposals received at office of Mayor, Front Royal, Va., until June 21 for construction of gravity mechanical filtration plant, capacity 1,000,000 gallons daily; plans, specifications and blanks with engineer, Edwin V. Dunstan, 204 Southern Bldg., Washington, D. C.; W. W. Pettitt, chairman water committee.

Foundry Furnace, etc.—Proposals received at office of General Purchasing Officer, Isthmian Canal Commission, Washington, D. C., until May 29 for furnishing furnace and oven for foundry and creosoted paving blocks. Blanks and general information relating to this circular (No. 776-A) obtainable from this office or offices of assistant purchasing agents, 24 State St., New York city, and 614 Whitney-Central Bldg., New Orleans; also from U. S. Engineer office in Chicago and St. Louis. F. C. Bogg, Major, Corps of Engineers, U. S. A., General Purchasing Officer.

Furniture.—E. N. Morrow, Mulberry, Fla.—Prices on furniture for hotel at Lakeland, Fla., containing 78 rooms and baths.

Furniture.—W. W. McCauley, 201 People's National Bank Bldg., secretary building committee Independent Order of Odd Fellows, Hagerstown, Md.—Prices on furniture for \$50,000 store and lodge building.

Furniture (School).—Henry K. Barbe, District Superintendent, Welch, W. Va.—Prices on blackboards, desks and other furniture for several schools in McDowell county, West Virginia.

Galvanized Siding and Roofing.—Atkins Electric Light & Power Co., W. H. Jones, president, Atkins, Ark.—Will purchase galvanized siding and roofing.

Heating Plant.—Frank Mears, Asheville, N. C.—Prices on hot-water heating plant and 12 radiators.

Heating-plant Material.—Department of Justice, office of R. V. La Dow, Superintendent of Prisons, Washington, D. C.—Proposals received until June 23 for furnishing and delivering at United States Penitentiary, Atlanta, Ga., material for heating apparatus for administration building; copies of specifications, together with further information, obtainable on application at this office.

Heating Plant.—Henry K. Barbe, District Superintendent, Welch, W. Va.—Prices on heating plant for several school buildings in McDowell county, West Virginia.

Hydraulic Dredge.—United States Engineer Office, Mobile, Ala.—Proposals for construction of steel hydraulic dredge Gulfport received until June 20. Information on application. C. A. F. Flagler, Lieutenant-Colonel, Engineers.

MACHINERY, PROPOSALS AND SUPPLIES WANTED

Manufacturers and others in need of machinery or supplies of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery or supplies needed we will make their wants known free of cost, and in this way secure the attention of manufacturers and dealers throughout the country. The Manufacturers Record has received during the week the following particulars as to machinery and supplies wanted.

Air Compressor.—City of Aliceville, Ala. Prices on new or second-hand single stage air compressor, 40 to 50 feet of air per minute; William F. Wolf, City Engineer.

Automobile.—Howard Nursery Co., Sam C. Howard, president, Stovall, N. C.—Description and prices on electric vehicles operated by storage batteries.

Boiler and Engine.—Capt. Frank Raple, South Mills, N. C.—25-horse-power steam boiler and engine for freight lighter of 15 tons capacity.

Boilers.—Twin City Ice, Light & Power Co., B. A. Little, manager, McCurtain, Okla. Prices on boilers.

Bolts, Nuts and Rivets.—See "Machinery, etc."

Bottling Supplies.—Ellington Mineral Water Co., Stoneville, N. C.—Prices on labels, bottles, crates, etc., for bottling mineral ginger ale.

Bridge Construction.—Purchasing committee, Hopkins county, Madisonville, Ky., will let contracts for construction of three 50-foot span, one 56-foot span and one 100-foot span steel bridges on June 4; M. E. Stope, County Engineer.

Bridge Construction.—Pittsburg County Commissioners, McAlester, Okla., will construct three steel bridges, 50, 75 and 125 feet long, costing \$1800, \$2500 and \$4500, respectively; bids opened June 9; T. W. McLaughlin, engineer.

Bridge Construction.—Bids received by Craig County Commissioners, Newcastle, Va., until June 9 for construction of three bridges over Barbour, Sinking and Meadow creeks; 81 feet 9 inches, 38 feet 3 inches and 29 feet 3 inches long, respectively; 12-foot roadway; steel; plans and specifications at office of clerk at Newcastle, Va.; blueprints obtainable at Childrey-Sunday Company, Richmond, Va., at cost of 45 cents and postage; P. St. J. Wilson, State Highway Commissioner, Richmond, Va.

Bridge Construction.—Bids asked on reinforced concrete bridge across Town Creek, and West Main St., Lebanon, Tenn.; bridge consists of two spans, one 19 and one 24 feet; width 64 feet; contract will be let July 7; plans on file with City Engineer, and may be had upon payment of \$1.

Bridge Construction.—Bids received by

Alleghany County Commissioners, Covington, Va., until June 7 for construction of two bridges across Dunlap Creek; 140 feet long, with 16-foot roadway, and 50 feet long, with 12-foot roadway; plans and specifications at office of clerk at Covington; blueprints obtainable at office of Childrey-Sunday Company, Richmond, Va., at cost of 45 cents and postage; P. St. J. Wilson, State Highway Engineer, Richmond, Va.

Bridge Construction.—Lenoir County Commissioners, Kinston, N. C., will open bids July 7 for construction of single-track steel bridge near La Grange; plans and specifications at office of Register of Deeds after June 2.

Broom Machinery.—Thos. Y. Hamilton, R. F. D. No. 5, High Point, N. C.—Addresses of manufacturers of broom machinery.

Bulkhead and Wharf.—Proposals received at Bureau of Yards and Docks, Navy Department, Washington, D. C., until June 14 for timber bulkhead and wharf at U. S. Naval Academy rifle range, Annapolis, Md.; amount available \$7500. Plans and specifications obtainable on application to bureau. William M. Smith, acting chief of bureau.

Cars.—T. M. Gathright, Covington, Va.—Prices on 15 mine or quarry cars of two tons capacity.

Cars.—Gray Lumber Co., Waverly, Va.—Fifteen narrow-gauge second-hand flat cars.

Cars.—Brinson Railway Co., Richard Morgan, general manager, Savannah, Ga., will buy 300 to 400 new freight cars.

Cement.—Donlitt & Williams, American National Bank Bldg., Shreveport, La.—45,000 barrels Portland cement. (See "Levee-construction Materials.")

Cement, etc.—T. C. Williams, care New York, Columbia & Georgetown Steamship Co., Columbia, S. C.—Addresses of manufacturers (with plants on Atlantic seaboard) of cement, lime and plaster.

Cement.—F. H. Bayley, Box 252, Hammond, La.—Correspondence with manufacturers of high-grade Portland cement.

Coal.—Bids for coal for Water and Light Department, Newbern, N. C., for year ending June 3, 1914, will be received by F. T. Patterson, City Clerk, until June 3, 1913; quantity, from 3500 to 4000 tons, R. O. M.

Ice Machinery.—Metzger & Rhen, Mobile, Ala.—Prices (for client) on ice machine and cold-storage outfit, including 15-horse-power motor, condenser, engine and cooling tanks of 1500 gallons capacity.

Ice and Cold-storage Machinery.—J. B. Magruder, Orlando, Fla.—Prices on ice and cold-storage plant; also information as to fuel cost, etc.

Incinerating Plants (Refuse, etc.)—Wm. Walker Jones, 511 Tucker Bldg., Raleigh, N. C.—Catalogues, data and dealers' prices on complete line of refuse (paper, trash, etc.) burning plants; also incinerating plants.

Knitting Mill and Machinery.—J. T. De Witt, Knoxville, Tenn.—Correspondence with manufacturers of knitting machinery for hosiery and underwear; also with parties having knitting mill for sale.

Laundry Machinery.—B. P. Sullivan, Lakeland, Fla.—Prices on equipment for small laundry.

Lighting Equipment.—Proposals in duplicate received by undersigned, Galveston, Tex., until June 12 for supply of 60 ornamental posts, combination trolley and arc lamp design, and 26 ornamental arc lamp posts all to be complete with lamps, etc., installed ready for operation; bids shall also cover installation of 13,000 feet of cable; all to be in accordance with specifications on file in office of City Secretary; specifications at office of W. D. Masterson, City Superintendent of Electricity; John D. Kelly, City Secretary.

Levee-construction Materials.—Doullut & Williams, American National Bank Bldg., Shreveport, La., receive bids until June 12 on following material to be used in making and sinking subaqueous mattresses for bank protection on Red River, Caddo parish, Louisiana; material delivered carload lots f. o. b. Shreveport: 3,500,000 feet R. M. lumber, length 12 feet and up, 1x4 to 1x6 inches wide, 30 per cent. of this not less than 16 feet long, and of varieties which will not break, split or warp before mattress is sunk, also free from large knots, shakes and other defects; 95,000 pounds No. 14 galvanized steel wire; 45,000,000 pounds stone, weight not less than 140 pounds to cubic foot, and in pieces not less than 20 pounds, and not above 100 in weight, also tough and strong for weather and water exposure; 20,000 pounds of nails; 45,000 barrels of Portland (hydraulic) cement, same to meet requirements of American Society of Civil Engineers; 9000 cubic yards sand; 12,000 cubic yards crushed rock or gravel, specific gravity not less than 140 pounds to the cubic foot (solid measurement), and none to pass through sieve of less than 1/4-inch mesh or more than 1 1/2-inch mesh.

Lighting.—See "Roofing, etc."

Lime.—See "Cement, etc."

Locomotive.—W. L. Stubbs, Greenville, N. C.—36-inch gauge 12 to 18-ton locomotive; give specifications, condition and lowest price first letter.

Lumber.—Council Committee on Streets, Lynchburg, Va., receives bids at office of H. L. Shaner, City Engineer, until May 31 for 127,363 feet B. M. Southern heart pine lumber and 53,999 feet B. M. white oak lumber for refooring Rivermont viaduct; delivery within 60 days from date of contract; specifications, etc., with City Engineer.

Lumber.—U. S. Engineer Office, War Department, Wilmington, N. C.—Proposals for furnishing and delivering about 688,690 feet B. M. of lumber will be received until June 18. Information on application. H. W. Stickie, Major, Engineers.

Machine Tools.—Navy Department, Bureau of Supplies and Accounts, T. J. Cowie, Paymaster-General, Washington, D. C., opens bids June 10 for furnishing 15 miscellaneous dies, double oral scanning machine and toggle press, with motor, schedule 5491; drilling machine with tapping attachment, schedule 5492; delivery Navy-yard, Norfolk, Va.; for copies of schedules apply to navy pay office nearest navy-yard.

Machinery, etc.—A. D. Verschoor, Steglitzer Strasser, 62, Berlin, Germany.—Correspondence with manufacturers of textile machines (as f. i. knitting machines, etc.), cotton machines, gas, gasoline or oil engines, bolts, nuts, rivets, etc.

Manufactured Products.—J. Chaley & Co., 504 Collins St., Melbourne, Australia.—Correspondence (view to representation) with manufacturers of products, including hardware, ironmongery, dry goods, chemicals, glassware, crockery, etc.; also groceries. Pending arrival in New York about June 10, correspondence may be addressed care Manufacturers Record.

Metal Units.—Proposals received at Bu-

reau of Supplies and Accounts, Navy Department, Washington, D. C., until June 10 to furnish at Navy-yard, Washington, D. C., quantity of naval supplies as follows: Schedule 5487, metal transfer units, etc. Applications for proposals should designate schedules desired by number. Blank proposals furnished upon application to bureau. T. J. Cowie, Paymaster-General, U. S. N.

Nails.—Doullut & Williams, American National Bank Bldg., Shreveport, La.—30,000 pounds nails. (See "Levee-construction Materials.")

Naval Supplies.—Navy Department, Bureau of Supplies and Accounts, T. J. Cowie, Paymaster-General, Washington, D. C., opens bids June 17 for furnishing 28,800 pounds structural steel angles, 23,500 hot rolled or forged steel billets, 883,000 steel castings, 40,000 pounds nickel bar steel, 48,000 pounds nickel steel sheet plants and 71,000 recoil cylinders, schedule 5503; annual lot of soft pig-iron and ingot tin, annual lot No. 1, 100,000 white pine, schedule 5513; 8 rawhide rings and 575 double-recoil springs and 62 seamless steel tubes, schedule 5502; 83,000 nickel steel piston rods, etc., schedule 5503; also annual lot rough yellow pine, schedule 5517; delivery Navy-yard, Annapolis, Md.; 400 pounds sheet annealed copper, 10,000 sheets binders board, schedule 5502; 5000 feet electric cable, schedule 5516; paraffin oil in barrels, rapeseed oil in barrels, heavy petroleum in barrels and alcohol, schedule 5514; delivery Navy-yard, Washington, D. C.; annual lot of unspun cotton, nitrate and sulphuric acid, diphenylamine, sodium nitrate, caustic soda and Louisiana sulphur, schedule 5511; delivery Navy-yard, Washington (for Indian Head), D. C.; also opens bids until June 17 for furnishing heavy lubricating oil, schedule 5522; delivery Navy-yard, Charleston, S. C.; mineral (kerosene) oil, schedule 5522; delivery Navy-yard, Key West, Fla.; annual lot of Millville gravel and molding sand, schedule 5523; annual lot of building sand, broken or gravel stone, schedule 5516; 600 pounds medium spelter solder, schedule 5503; 20,400 loofa sponges, schedule 5522; delivery Navy-yard, Norfolk, Va.; for copies apply to navy pay office nearest navy-yard.

Naval Supplies.—Navy Department, Bureau of Supplies and Accounts, Washington, D. C., T. J. Cowie, Paymaster-General, opens bids June 10 for furnishing 15 galvanized boat anchors and 1000 gallons (in one-gallon cans) black asphaltum varnish, schedule 5489; 500 gallons glycerine and 1000 gallons (in five-gallon cans) sperm oil, schedule 5482; delivery Navy-yard, Norfolk, Va.; also receives bids until June 10 for furnishing 12,500 pounds medium steel angles, schedule 5489; delivery Navy-yard, Washington, D. C.; for copies of schedules apply to navy pay office nearest navy-yard.

Paper Machinery.—George P. Crumbaugh, 5126 N. 2d St., St. Louis, Mo.—Opens bids June 15 for installing corrugated and roofing paper machinery.

Paving.—Shelby County Commissioners, Memphis, Tenn., receive bids until June 2 for paving Country Club Rd., including portions of Central, Goodwyn and Railroad Aves.; consider alternate proposals on asphaltic concrete, dolerite, brick and macadam paving; specifications, etc., on file with County Commissioners.

Paving.—City of Tulsa, Okla., E. B. Cline, City Auditor, receives bids until June 3 for paving on Independence, 9th, Haskell and Golden Sts.; alternative plans and specifications: Class A consisting of Trinidad Lake asphalt, Texaco asphalt, Gilsonite asphalt; class B, Oklahoma rock asphalt, asphaltic concrete; class C, Trinidad Lake asphalt, Texaco asphalt, Gilsonite asphalt; class D, Oklahoma rock asphalt, asphaltic concrete; all on concrete base.

Paving, etc.—Proposals, addressed to The Recorder, Knoxville, Tenn., received on or before May 30 for paving and otherwise improving following improvement districts: No. 93, Forest Ave., 4th to 9th Sts., paving 6550 square yards; excavation, 2300 cubic yards; concrete curb, 4600 linear feet; storm sewer, 800 linear feet, and other miscellaneous items. District No. 96, White Ave. and 2d St., paving 1630 square yards; excavation, 700 cubic yards; concrete curb, 1072 linear feet, and other miscellaneous items. District No. 100, North Third Ave. from south side of Caswell St. to north side of Wells St., paving 3911 square yards; excavation, 1467 cubic yards; concrete curb, 1594 linear feet; storm sewer, 200 linear feet, and other miscellaneous items; D. G. Leahy, Recorder.

Paving.—See "Tunnel, etc."

Paving.—Proposals addressed to Board of Awards received by City Register, City Hall, Baltimore, Md., until June 4 to grade, curb and pave: Contract No. 115, bituminous

concrete, about 3200 square yards; contract 119, vitrified block, about 2800 square yards; specifications obtainable on application at office of Commissioners for Opening Streets, Eugene E. Grannan, president, City Hall; James H. Preston, president Board of Awards.

Paving.—Bids received at office of Board of Commissioners, D. B. McKay, chairman, Tampa, Fla., until June 3 for repairing Seventh Ave. from 10th to 22d Sts.; remove old pavement, replace good bricks, substitute new where necessary; asphalt fillers for joints; approximate area 21,600 square yards; specifications at office of City Engineer.

Paving Blocks.—Georgia Real Estate Co., 7 York St. East, Savannah, Ga.—Names of wood paving block manufacturers prepared to bid in Savannah territory.

Plastering Material.—Department of Justice, office of R. V. La Dow, Superintendent of Prisons, Washington, D. C.—Proposals received until June 23 for furnishing and delivering at United States Penitentiary, Atlanta, Ga., plastering material to be used in construction of administration building, United States Penitentiary, Atlanta, Ga., in accordance with specifications, copies of which are obtainable on application at this office.

Plumbing.—See "Roofing, etc."

Plumbing.—See "Steam Heating"

Posts.—Bartlett & Davilla Mutual Telephone Co., J. D. Bells, president, Bartlett, Tex.—Prices on cable posts, etc., for construction of 10 miles of rural line.

Potteries.—N. M. Sauls, Bowling Green, Fla.—Addresses of manufacturers of pottery and crockery.

Prison Cages.—Robbins & Daggett, Salisbury, N. C.—Addresses of manufacturers of portable prison cages for use in road work.

Pump.—City of Aliceville, Ala.—Prices on new or second-hand triplex pump, single or double acting, 100 to 125 gallons per minute capacity; William F. Wolf, City Engineer.

Pumps.—Twin City Ice, Light & Power Co., B. A. Little, manager, McCurtain, Okla. Prices on pumps.

Quarrying Equipment.—Regal Marble Co., Regal, N. C. (telegraph office Murphy, N. C.)—Prices on channellers, gangs, rubbing beds, finishing machinery, 2000 feet belt drive, two-stage air compressors, 300-horse-power alternating motor and two 75-horse-power motors.

Refrigerating Plant.—D. Pender Grocery Co., Norfolk, Va.—Prices on refrigerating plant.

Road-building Equipment.—Commissioners' Court, Brazoria County Road District, Angleton, Tex.—Prices on traction gas engines, steam rollers, dump wagons and steam or oil loading machines.

Road-building Equipment.—J. K. Warden, Speedwell, Va.—Crusher of 100 yards capacity; 20-foot elevators; revolving screen; six-horse-power skeleton hoist.

Road Construction.—Board of State Engineers, Highway Department, Room 104 New Orleans Court Bldg., New Orleans, La., will recon and gravel public highway from city to Hope Villa, distance of about 14 miles; bids received until May 26; W. E. Atkinson, State Highway Engineer; plans, specifications, etc., obtainable at office of Highway Department, Board of State Engineers.

Road Construction.—Bids received by Board of Revenue, Montgomery county, Montgomery, Ala., until June 23 for grading and graveling: (1) three miles Macon county road; (2) 4 1/2 miles Sprague Junction road; (3) 2 1/2 miles Fannin's Mill road; profile and specifications at office of County Engineer, Thos. H. Edwards.

Road Construction.—Bids received by Court of (Marengo) County Commissioners at Courthouse, Linden, Ala., until June 24 for grading, draining and surfacing about four miles of road; profile and specifications at courthouse; W. S. Keller, State Highway Engineer, Montgomery, Ala.

Road Construction.—Contractor to build between six and seven miles of dirt road; to open and grade same between Bolding and Lane City; submit bid to Judge Bowen, County Judge of Wharton county, Wharton, Tex.

Road Construction.—Bids received until June 25 by Court of (Butler) County Commissioners at Courthouse, Greenville, Ala., to grade and surface with sand-clay a portion of Milner Mill road; expenditure \$10,000; W. S. Keller, State Highway Engineer, Montgomery, Ala.

Road Construction.—Bids received by Jefferson County Board of Revenue at Court-

house, Birmingham, Ala., until June 27 for macadamizing part of old Stouts Rd. at about thirteenth milepost; W. S. Keller, State Highway Engineer, Montgomery, Ala.

Road Construction.—Bids received by Court of (Coosa) County Commissioners at Courthouse, Rockford, Ala., until June 4 for grading, draining and surfacing with topsoil a portion of Kellyton and Rockford road; W. S. Keller, State Highway Engineer, Montgomery, Ala.

Road Construction.—Calhoun county will grade, drain and surface with macadam about 1 1/2 miles of Piedmont and Jacksonville road; bids received until June 28 at courthouse, Anniston, Ala.; expenditure, \$4000; W. S. Keller, State Highway Engineer, Montgomery, Ala.

Road Construction.—Board of Revenue, Lowndes county, receives bids at Courthouse, Hayneville, Ala., until June 16 for grading about seven miles of road; expenditure \$8000; W. S. Keller, State Highway Engineer, Montgomery, Ala.

Road Construction.—Board of State Engineers, Highway Department, Room 104 New Orleans Court Bldg., New Orleans, La., will construct with gravel public highway, beginning 5.1 miles from city limits of Shreveport, La., and extending to Keithville, La., distance of 5.8 miles; bids received until June 2; W. E. Atkinson, State Highway Engineer; plans and specifications obtainable at office of Highway Department, Board of State Engineers.

Road Construction.—George W. Bahlke, Mayor, Highland Park, P. O. Richmond, Va., Correspondence relative to granolithic sidewalk laid four feet wide; also general road building, including plans, specifications, etc.

Roofing, etc.—Frank Mears, Asheville, N. C.—Prices on tile for roof, bathroom outfits and electric lighting for \$4000 residence.

Safe, etc.—People's Savings Bank, Henderson, Tenn.—Prices on safe, vault and other bank fixtures.

Safe.—Farmers' Bank & Trust Co., Stoneville, N. C.—Prices on safe.

Sand, Gravel, etc.—Doullut & Williams, American National Bank Bldg., Shreveport, La.—8000 cubic yards sand; also 12,000 cubic yards crushed rock or gravel. (See "Levee-construction Materials.")

Sawmill Machinery.—Poltevent & Favre Lumber Co., New Orleans, La., will open bids July 1 on equipment for sawmill plant at Mandeville, La.; 100,000 feet daily capacity.

Seales.—Elizabeth City Oil & Fertilizer Co., Elizabeth City, N. C.—Prices on pair of railroad track scales.

Sewers.—See "Tunnel, etc."

Sewer Construction.—City of Walterboro, S. C., opens bids July 1 for sewer construction; four mile 8, 10 and 12-inch pipe; 14 five-inch F. T. siphons, manholes, covers, etc.; engineer, J. Newton Johnston, Florence, S. C.

Sewers.—Bids received by Board of Affairs, Bluefield, W. Va., until June 13 for construction of sanitary sewer line from end of present sewer in west end of city of Bluefield west through the town of Graham and to a point on Bluestone River west thereof, distance of about 6500 feet; sewer to be 15 inches in diameter; joints to be laid in cement, and work to be done according to plans and specifications, and upon location of City Engineer of said city; said bond will also at the same time and place receive bids for excavation necessary for laying of sewer line; J. T. Akers, auditor.

Sewer Construction.—Proposals received at office of Dan C. Smith, Jr., City Secretary, Houston, Tex., until June 16 for storm sewer work: Contract A, labor and materials for construction of 1000 linear feet 42-inch, 1750 feet 84-inch, 1340 feet 102-inch and 4520 feet 108-inch sewer, 23 manholes, 92 catch-basins and 2300 linear feet 15-inch catch-basin connections; specifications, etc., obtainable on application at office of City Engineer, City Hall.

Soda Fountain.—D. Pender Grocery Co., Norfolk, Va.—Prices on soda fountain.

Standpipe.—Loul Hart, Bellevue Highlands Co., Gadsden, Ala.—Opens bids June 1 for 100,000-gallon standpipe on Lookout Mountain.

Steam Heating.—Board of Education, Lexington, Ky., will receive bids until June 14 through R. D. Norwood, chairman of building committee, for steam-heating plant and plumbing and carpenter work, brick work, plastering, concrete and tile work in connection with same for Dudley school; plans and specifications at office of board and Anderson & Frankel, engineers, Lexington.

Steel Hull.—Mississippi River Commission, Liggett Bldg., St. Louis, Mo.—Proposals for construction and delivery of steel hull for floating derrick received until June 18. Information on application. Clarke S. Smith, Major, Engineers, Secretary.

Steel Wheels.—Sanford Bros., Chattanooga, Tenn.—List of manufacturers of steel wheels for wheelbarrows.

Steel Wire.—Doulut & Williams, American National Bank Bldg., Shreveport, La.—\$5,000 pounds No. 14 galvanized steel wire. (See "Levee-construction Materials.")

Stone.—Doulut & Williams, American National Bank Bldg., Shreveport, La.—45,000,000 pounds of stone. (See "Levee-construction Materials.")

Structural Steel.—Winder Lumber Co., Winder, Ga.—Prices on structural steel for roof for 80x124-foot church building at Orlando, Fla.

Title.—Navy Department, Bureau of Supplies and Accounts, Washington, D. C., T. J. Cowie, Paymaster-General, opens bids June 3 for furnishing 48,000 glazed tile, schedule 5479; delivery Navy-yard, Annapolis, Md.; for copies of schedules apply to navy pay office nearest navy-yard.

Tunnel, etc.—Proposals, directed to undersigned and endorsed on outside of the envelope "Mission Ridge Tunnel Bldg." received at office of County Judge, Chattanooga, Tenn., until May 31 for construction of pipe storm-water sewer, draining territory at east end of tunnel; paving tunnel with concrete roadway with one track for electric railway; bids also asked for concrete roadway with two tracks, and for repairing and replacing defective concrete and brick work in walls and arch of tunnel; blank forms for proposals, contract and bond, plans and specifications furnished on application at office of L. B. Bryan, County Engineer, Room 21 Municipal Bldg.; J. B. Ragon, chairman.

Water-works.—City of Walterboro, S. C., Dr. Ackerman, Mayor, opens bids about July 1 for water-works construction, including erection of 20x32-foot brick pump-house, also brick and concrete reservoir 10x40 feet in diameter; four miles S. 6 and 4-inch cast-iron pipe, with hydrants, valves and boxes; 60,000-gallon steel tank; J. Newton Johnston, engineer, Florence, S. C.

Water-works Equipment.—Board of Public Works, Maryville, Mo., through F. L. Flynt, superintendent of construction, receives bids until June 2 for one high-service compound condensing duplex direct-acting pump of 1,000,000 gallons capacity; two low-service horizontal split-case centrifugal pumps, direct connected to steam engine, 1000 gallons per minute capacity each; boiler-feed pump; two pressure filters, 250,000 gallons capacity each; 4-kilowatt 120-volt direct-current generator direct connected to steam engine; 150-horse-power open feed-water heater; low concrete dam, gravity section; plans and specifications on file at office of undersigned at Maryville, and at office of Hiram Phillips, consulting engineer, St. Louis, Mo.; copies of specifications, etc., furnished upon application, by the undersigned; F. L. Flynt, Superintendent of Construction, Water Department.

Wheel Press.—Gibbes Machinery Co., Columbia, S. C.—Prices on small second hand wheel press.

Woodworking Machinery, etc.—Geo. P. Crumbaugh, 5126 N. 2d St., St. Louis, Mo. Opens bids June 15 for installing corrugated paper, roofing paper, wood veneering and sawmill machinery.

Woodworking Machinery.—See "Drum (Packing Drum) Machinery and Materials."

Wood Blocks.—See "Paving Blocks."

Woodworking Machinery.—T. S. Lucas, Fayetteville, N. C.—Prices on new or second-hand planers, edgers and matchers.

Faunt Le Roy Elevator Co.

The capitalization of the Faunt Le Roy Elevator Co., Baltimore, Md., has been increased to \$100,000, and the company is actively proceeding with the manufacture of high-grade elevators. The company was organized in 1904. The president of the company is H. H. Faunt Le Roy; vice-president, H. W. Faunt Le Roy; both of whom have been connected with the manufacture of elevators for the past 25 years, and possess the technical and practical knowledge acquired in the extensive experience in the elevator manufacturing business. The directors of the company, in addition to the president and vice-president, are Henry F. Baker of the firm of Robert Garrett & Sons, and Ralph C. Sharretts, secretary to Robert Garrett. Mr. Sharretts is the treasurer of the Faunt Le Roy Elevator Co.

FINANCIAL NEWS

Review of the Baltimore Market.

Office MANUFACTURERS RECORD,

Baltimore, Md., May 28.

The Baltimore stock market continued quiet during the past week, but a little more interest was manifested. United Railways common sold from 27 to 27½; do. income bonds, 64¼ to 65; do. funding 5s, 87¼ to 87; do. notes, 108½ to 110; do. 4s, 83¾ to 83¾; Consolidated Gas, Electric Light & Power preferred, 111¾ to 110½; do. 4½s, 87¾ to 87; Seaboard Air Line common, 17¼; Mt. Vernon-Woodberry Cotton Duck 5s, 69¾ to 70½.

Bank stock sold as follows: Citizens', 42¼ to 43; Exchange, 163; Merchants and Mechanics', 34; Western, 39; Drovers and Mechanics', 225.

United States Fidelity sold at 195; Mercantile Trust, 165; Munsey Trust, 102 to 104; Fidelity & Deposit, 148½; Maryland Casualty, 100.

Other securities were traded in thus: Consolidation Coal, 96¾ to 96; do. convertible 6s, 98 to 99; Houston Oil common, trust certificates, 18¾ to 18¾; do. preferred, trust certificates, 59¾ to 60; do. dividend certificates, 80¼ to 80; City & Suburban (Washington) 5s, 102 to 101¼; Baltimore City 3½s, 1930, 91½; do. do. 1940, 91¾; do. 5s, 1916, 101¾; Virginia Railway & Power common, 53¾; Alabama Company common, 6½ to 7; Merchants & Miners' Transportation Co. voting trust, 59¼ to 58½; Lake Roland Elevated 5s, 105; Baltimore Traction (North Baltimore Division) 5s, 105½; Seaboard & Roanoke 5s, 103¼; Wilmington & Weldon 5s, 105¼; Atlantic Coast Line convertible debenture 4s, 94 to 93; Pennsylvania Water & Power common, 62¾ to 62½; Baltimore City 4s, 1961, 94; Georgia, Carolina & Northern 5s, 102¾ to 102¾; Northern Central Railway stock, 118¾ to 117; Chicago Railways 5s, 98½ to 98; Washington, Baltimore & Annapolis 5s, 87; Baltimore Traction 5s, 104; Georgia Southern & Florida 5s, 103¼; Baltimore Electric preferred, 43¼ to 42½; Detroit United 4½s, 70¾; Maryland Electric 5s, 96½ to 97; Fairmont & Clarksburg Traction 5s, 100 to 99¾; Pennsylvania Water & Power 5s, 90¼; Carolina Central 4s, 91¼; Norfolk Railway & Light 5s, 98¾; Atlantic Coast Line of Connecticut, 240; Virginia Railway & Power 5s, 92½; Charleston & Western Carolina 5s, 102 to 102¼; Georgia & Alabama Consolidated 5s, 102; Virginia Midland 3d, 101; Norfolk Railway & Light common, 26¼.

SECURITIES AT BALTIMORE.

Last Quotations for the Week Ended May 28, 1913.

| Railroad Stocks. | Par. | Bid. | Asked. |
|------------------------------|------|------|--------|
| Atlantic Coast Line..... | 100 | 122 | 123 |
| At. Coast of Conn..... | 100 | 238 | 239 |
| Maryland & Penna..... | 100 | 30 | 45 |
| Norfolk Railway & Light..... | 25 | 25 | 26 |
| United Rys. & Elec. Co..... | 50 | 27½ | 27½ |
| Virginia Ry. & P. Co..... | 100 | 63½ | 64 |

| Bank Stocks. | Par. | Bid. | Asked. |
|---------------------------|------|------|--------|
| Bank of Baltimore..... | 100 | 185 | 186 |
| Exchange..... | 100 | 163 | 163 |
| Farmers & Merchants..... | 40 | 40 | 49½ |
| First National..... | 100 | 145 | 145 |
| Merchants-Mechanics'..... | 10 | 32 | 34 |
| National City..... | 100 | 109 | 109 |
| Union..... | 100 | 130 | 142 |

| Trust, Fidelity and Casualty Stocks. | Par. | Bid. | Asked. |
|--------------------------------------|------|------|--------|
| Colonial Trust..... | 50 | 28 | 28 |
| Continental Trust..... | 100 | 210 | 210 |
| Fidelity & Deposit..... | 50 | 148 | 148½ |
| Merc. Trust & Dep..... | 50 | 162½ | 163 |
| Munsey Trust (Balto.)..... | 100 | 109 | 104 |
| Munsey Trust (Wash.)..... | 100 | 102½ | 102½ |
| Union Trust..... | 50 | 62 | 65 |
| U. S. Fidelity & Guar..... | 100 | 193 | 197 |

| Miscellaneous Stocks. | Par. | Bid. | Asked. |
|-----------------------------------|------|------|--------|
| Baltimore Electric Pfd..... | 50 | 40 | 40 |
| Canton Company..... | 100 | 134 | 175 |
| Con. Gas, Elec. Lt. & P. Com..... | 100 | 104 | 109 |
| Con. Gas, Elec. Lt. & P. Pfd..... | 100 | 110 | 110½ |
| Consolidation Coal..... | 100 | 95½ | 96½ |
| G. B. S. Brewing Co..... | 100 | 1 | 2 |
| Mer. & Min. Trans. Co. V. T..... | 100 | 58½ | 59 |

| Railroad Bonds. | Par. | Bid. | Asked. |
|---------------------------------|------|------|--------|
| Alabama Midland 4s..... | 101 | 104¼ | 104 |
| Atlantic Coast 1st 4s..... | 101 | 91½ | 91 |
| At. Coast Conv. Deben. 4s..... | 93 | 94 | 94 |
| At. Coast Conv. 5s, Cfs..... | 102 | 102 | 102 |
| At. Coast United 4s..... | 100 | 106 | 106 |
| Charleston & West. Car. 5s..... | 101½ | 103 | 103 |
| Coal & Coke Railway 5s..... | 94 | 94 | 94 |
| Coal & Iron Railway 5s..... | 98 | 99½ | 99½ |
| Georgia & Alabama 5s..... | 102½ | 102½ | 102½ |
| Ga. Car. & North, 1st 5s..... | 102½ | 102½ | 102½ |
| Georgia Pacific 1st 6s..... | 106 | 106 | 106 |
| Ga. South. & Fla. 1st 5s..... | 103½ | 104 | 104 |
| Maryland & Penna. Ter. 5s..... | 97½ | 100½ | 100½ |
| New Orleans Gr. Nor. 5s..... | 65 | 67½ | 67½ |
| New Orleans, M. & C. 5s..... | 60 | 61¼ | 61¼ |
| Potomac Valley 1st 5s..... | 101 | 106 | 106 |
| Raleigh & Augusta 1st 5s..... | 101 | 117 | 117 |
| Rich. & Pan. Deben. 5s..... | 101 | 101½ | 101½ |
| Seaboard 4s, Stamped..... | 80 | 82¼ | 82¼ |

| | | |
|------------------------------------|------|------|
| Seaboard Ref. 4s..... | 81 | 81 |
| Seaboard & Roanoke 6s..... | 103¾ | 103¾ |
| Augusta Railway & Electric 5s..... | 102½ | 104¾ |
| Virginia Midland 5th 5s..... | 102½ | 104¾ |
| Wash., Balto. & Annap. 5s..... | 87 | 87 |
| Western Maryland 4s..... | 79¼ | 79¼ |
| Western N. C. Con. 6s..... | 100¼ | 101½ |

| Street Railway Bonds. | Par. | Bid. | Asked. |
|-------------------------------------|------|------|--------|
| Anacostia & Potomac 5s..... | 97½ | 99 | 99 |
| Augusta Railway & Electric 5s..... | 99 | 99 | 99 |
| Balto., Sp. Pt. & C. 4½s..... | 93½ | 95½ | 95½ |
| Baltimore Traction 1st 5s..... | 104 | 104 | 104 |
| Charleston City Railway 5s..... | 101½ | 102 | 102 |
| City & Suburban 5s (Wash.)..... | 92¼ | 93¼ | 93¼ |
| Danville Traction 5s..... | 99½ | 100 | 100 |
| Fairmont & Clarksburg Trac. 5s..... | 96¼ | 98½ | 98½ |
| Macon Railway & Light 5s..... | 96¼ | 97 | 97 |
| Maryland Electric Railways 5s..... | 96¼ | 97 | 97 |
| Memphis Street Railway 5s..... | 95¼ | 97½ | 97½ |
| Norfolk & Portsmouth Trac. 5s..... | 87½ | 88½ | 88½ |
| Norfolk Railway & Light 5s..... | 96¼ | 99½ | 99½ |
| St. Joseph Ry., L. H. & P. 5s..... | 83¾ | 83¾ | 83¾ |
| United Railways 1st 4s..... | 84¾ | 84¾ | 84¾ |
| United Railways Income 4s..... | 84¾ | 84¾ | 84¾ |
| United Railways Funding 5s..... | 109 | 109 | 109 |
| United Railway Notes..... | 109 | 109 | 109 |
| Virginia Ry. & P. 5s..... | 92¼ | 94¼ | 94¼ |

| Miscellaneous Bonds. | Par. | Bid. | Asked. |
|-------------------------------------|------|------|--------|
| Ala. Coal & Iron 5s..... | 75½ | 75½ | 75½ |
| Alabama Company 6s..... | 70 | 70 | 70 |
| Baltimore Electric 5s, Stp..... | 97 | 98 | 98 |
| Belvedere Hotel 1st 5s..... | 100 | 100 | 100 |
| Consolidated Gas 4½s..... | 94½ | 94½ | 94½ |
| Con. Gas, Elec. Lt. & P. 4½s..... | 87 | 87 | 87 |
| Consolidation Coal 6s..... | 98½ | 98½ | 98½ |
| Consolidation Coal Notes..... | 98 | 98½ | 98½ |
| Consolidation Coal Ref. 4½s..... | 96¼ | 98½ | 98½ |
| Consolidation Coal Ref. 5s..... | 96¼ | 98½ | 98½ |
| Davidson Chemical 6s..... | 97 | 99 | 99 |
| Fairmont Coal 1st 5s..... | 94 | 94½ | 94½ |
| G. B. S. Brewing 1st 4s..... | 39 | 39 | 39 |
| G. B. S. Income 5s..... | 3 | 9 | 9 |
| Maryland Steel Co. 5s..... | 101 | 101 | 101 |
| Mt. Vernon-Woodby Cot. Duck 5s..... | 69¼ | 70¼ | 70¼ |
| Penna. Water & P. 5s..... | 89¼ | 90¼ | 90¼ |
| Rennet Hotel 1st 5s..... | 82½ | 92½ | 92½ |
| United Elec. Lt. & P. 4½s..... | 90 | 92 | 92 |

SOUTHERN COTTON-MILL STOCKS.

Quotations Furnished by William S. Glenn, Broker, Spartanburg, S. C., for Week Ending May 24.

| Abbeville Cotton Mills (S. C.)..... | Bid. | Asked. |
|---------------------------------------|------|--------|
| Aiken Mfg. Co. (S. C.)..... | 85 | 85 |
| American Spinning Co. (S. C.)..... | 143 | 143 |
| Anderson Cotton Mills (S. C.)..... | 48 | 48 |
| Anderson Cot. Mills (S. C.) Pfd..... | 100 | 100 |
| Arkadia Mills (S. C.)..... | 90 | 90 |
| Arkwright Cotton Mills (S. C.)..... | 99 | 109 |
| Belton Mills (S. C.)..... | 100 | 110 |
| Brandon Mills (S. C.)..... | 80 | 80 |
| Brazos Mills (S. C.)..... | 160 | 160 |
| Chiquola Mfg. Co. (S. C.)..... | 90 | 90 |
| Clifton Mfg. Co. (S. C.) Pfd..... | 90 | 90 |
| Clinton Cotton Mills (S. C.)..... | 100 | 100 |
| Courtney Mfg. Co. (S. C.)..... | 93 | 93 |
| Dallas Mfg. Co. (Ala.)..... | 99 | 99 |
| D. E. Converse Co. (S. C.)..... | 75 | 75 |
| Drayton Mills (S. C.)..... | 90 | 90 |
| Engle & Phenix Mills (Ga.)..... | 106 | 106 |
| Easley Cotton Mills (S. C.)..... | 162 | 175 |
| Enoree Mfg. Co. (S. C.)..... | 25 | 43 |
| Enoree Mfg. Co. (S. C.) Pfd..... | 95 | 100 |
| Gaffney Mfg. Co. (S. C.)..... | 65 | 70 |
| Gainesville Cotton Mills (Ga.)..... | 72 | 90 |
| Glennwood Cotton Mills (S. C.)..... | 100 | 100 |
| Granville Mfg. Co. (S. C.)..... | 135 | 145 |
| Greenwood Cotton Mills (S. C.)..... | 87 | 90 |
| Grendel Mills (S. C.)..... | 90 | 100 |
| Hartsville Cotton Mill (S. C.)..... | 175 | 175 |
| Henrietta Mills (N. C.)..... | 100 | 175 |
| Inman Mills (S. C.)..... | 100 | 106 |
| Kling Mfg. Co. J. P. (Ga.)..... | 80 | 85 |
| Lancaster Cotton Mills (S. C.)..... | 120 | 120 |
| Lancaster Cot. Mills (S. C.) Pfd..... | 97 | 100 |
| Langley Mfg. Co. (S. C.)..... | 75 | 75 |
| Laurens Mills (S. C.)..... | 115 | 115 |
| Limestone Mills (S. C.)..... | 155 | 155 |
| Lockhart Mills (S. C.)..... | 80 | 80 |
| Lockhart Mills (S. C.) Pfd..... | 95 | 95 |
| Loray Cotton Mills (N. C.) Pfd..... | 90 | 90 |
| Marlboro Cotton Mills (S. C.)..... | 70 | 70 |
| Mills Mfg. Co. (S. C.)..... | 90 | 101 |
| Molton Mfg. Co. (S. C.)..... | 110 | 110 |
| Monarch Cotton Mills (S. C.)..... | 110 | 110 |
| Newberry Cotton Mills (S. C.)..... | 125 | 130 |
| Ninety-Six Cotton Mills (S. C.)..... | 130 | 130 |
| Norris Cotton Mills (S. C.)..... | 115 | 115 |
| Orr Cotton Mills (S. C.)..... | 90 | 98 |
| Pacolet Mfg. Co. (S. C.)..... | 99 | 99 |
| Pacolet Mfg. Co. (S. C.) Pfd..... | 96 | 100 |
| Parker Common..... | 30 | 30 |
| Parker Pfd..... | 65 | 65 |
| Pelzer Mfg. Co. (S. C.)..... | 98 | 98 |
| Pine Mfg. Co. F. W. (S. C.)..... | 98 | 98 |
| Saxon Mills (S. C.)..... | 130 | 130 |
| Spartan Mills (S. C.)..... | 110 | 115 |
| Triton Mfg. Co. (Ga.)..... | 180 | 180 |
| Tucapau Mills (S. C.)..... | 310 | 360 |
| Union-Buffalo (S. C.) 1st Pfd..... | 80 | 80 |
| Union-Buffalo (S. C.) 2d Pfd..... | 5 | 5 |
| Victor Mfg. Co. (S. C.)..... | 110 | 115 |
| Warren Mfg. Co. (S. C.)..... | 80 | 80 |
| Warren Mfg. Co. (S. C.) Pfd..... | 100 | 104 |
| Washington Mills (Va.)..... | 104 | 104 |
| Washington Mills (S. C.) Pfd..... | 104 | 110 |
| Watts Mills (S. C.)..... | 80 | 80 |
| Whitney Mfg. Co. (S. C.)..... | 105 | 105 |
| Wilmington Mills (S. C.)..... | 120 | 125 |
| Wiscasset Mills (N. C.)..... | 115 | 115 |
| Woodruff Cotton Mills (S. C.)..... | 95 | 100 |
| Woodside Cotton Mills (S. C.)..... | 100 | 100 |

West Penn Traction & Power.

George H. Miller, American Building, Baltimore, representing J. S. & W. S. Kuhn, Inc., investment bankers, Pittsburgh, sends the MANUFACTURERS RECORD a copy of the first annual report to the stockholders of the West Penn Traction & Water-Power Co. W. S. Kuhn is president. This company controls public utilities in Pennsylvania and West Virginia. It is now constructing (through its subsidiary corporation, the Hydro-Electric Company of West Virginia) a hydro-electric plant on Cheat River in

West Virginia, near Cheat Haven, Pa., where about 36,000 electrical horse-power will be developed for transmission in West Virginia to Pittsburgh and surrounding territory to Ohio cities, etc. Additional powers will be developed after this first development is completed. The annual report contains interesting information regarding these companies, besides photographic views showing the progress of construction on the Cheat River development.

The West Penn corporation's gross receipts for the year ending December 31, 1912, were \$3,408,586.28; operating expenses and taxes, \$1,829,459.63; earnings, \$1,579,126.65; fixed charges, \$1,029,748.58, leaving \$549,378.07, of which \$390,000 was required for dividend on preferred stock, leaving \$159,378.07 available for dividend on common stock.

Plans for a Public Bank.

Edmund Berrigan of Norman, Okla., according to a report from Oklahoma City, has filed with the Secretary of State an "initiative" bill to establish a State agricultural bank and farm-loan bank auxiliary, which is to be operated by means of an issue of \$5,000,000 of State bonds, for which the bill provides, subject to the approval of the voters. An appropriation of \$25,000 more is provided for to carry out the plan.

It is prescribed that the bank shall lend to farmers money provided by the bond issue, these loans to be for farm-production purposes. Farmers may become members of the banking organization, which may also conduct a general business, receiving deposits and making general loans, subject to certain restrictions. Deposits will be guaranteed.

The board of directors is to consist of the Governor of the State, the Justice of the Supreme Court, the Attorney-General, the president of the Agricultural and Mechanical College, and three men whose only business is farming. The Governor in making appointments for the institution is prohibited from selecting anyone who is a member of his own political party. The Attorney-General's office is to prepare the ballot title for the necessary election.

FINANCIAL CORPORATIONS.

Ala., Bella Mina.—The Bank of Bella Mina is reported organized with \$10,000 capital.

Ala., Eclectic.—The Bank of Eclectic has asked permission to begin business; capital \$25,000. Officers: B. L. Gaddies, Jr., Montgomery, president; A. J. Howle, Eclectic, first vice-president; A. L. Hamilton, Tallapoosa, second vice-president; Lee Hornsby, Eclectic, cashier and manager.

Ala., Marion Junction.—The Bank of Marion Junction is organized; capital \$30,000; Dr. J. M. Donald, president; Charles F. Gilmer, vice-president, and Hugh Hooper, cashier; directors, Dr. J. M. Donald, M. F. Smith, A. B. Moore, James Alexander, Charles Gilmer and H. C. Armstrong.

Ark., Green Forest.—The First National Bank of Green Forest is approved; capital \$25,000; organizers, F. O. Butt, Eureka Springs, Ark.; C. C. O'Neal, A. J. Cox, W. A. Butt, G. W. Grever and C. B. Grim.

Ark., Judsonia.—The Farmers and Merchants' Bank of Judsonia is organized with \$30,000 capital; incorporators, A. W. Henson, Harry Hunsaker, R. E. Powell, J. C. Rhew, N. A. Wallen, J. A. Bauer, W. F. Bauer, L. Wertwisch, W. H. L. Woodard, J. S. Eastland and W. E. Fordes. W. F. Bauer will be president. Business is expected to begin in about six weeks.

Ark., Marianna.—The St. Francis Valley Abstract & Investment Co. has filed articles of incorporation; capital \$3000; incorporators, J. M. Bush, W. F. Nelson, R. D. Smith, R. L. Nixon, H. F. Roleson and the Arkansas Guaranty Title & Trust Co.

Fla., Jacksonville.—The Florida Securities Co. has filed charter; capital \$50,000; C. H.

[For Additional Financial News, See Pages 76 and 77.]

Merchants-Mechanics National Bank

South and Water Sts., BALTIMORE, MD.
 DOUGLAS H. THOMAS, President.
 JNO. B. RAMSAY, V.-P. and Chm. Bd. of Dir.
 WM. INGLE, Vice-President.
 JOHN B. H. DUNN, Cashier.
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Cawley, president; A. L. Cawley, vice-president, and H. A. Williams, secretary.

Fla., Sarasota.—The conversion of the Citizens' Bank of Sarasota into the First National Bank of Sarasota is approved; capital \$50,000.

Fla., West Palm Beach.—The Security Abstract & Insurance Co. incorporated; capital \$25,000, will begin business about July 1; T. M. Richards, F. G. Lewis and S. C. Kearley, organizers.

Ga., Atlanta.—The Equitable Industrial Insurance Co. has made application for charter; capital \$50,000, with privilege of increasing to \$200,000 or decreasing to \$25,000; petitioners, A. R. Brittain, G. W. Parker, Maurice H. Thomas, Paul Barringer and H. L. Bloodworth.

Ga., Atlanta.—The Atlanta State Savings Bank has made application for charter; capital \$25,000; incorporators, J. O. Ross, E. L. Collier, P. A. Keith, C. C. Cater, Wm. Driskell, H. W. Russell, G. M. Holmes, F. J. Wimberly, W. B. Woodall, J. O. Connally, M. W. Hill, David T. Howard, W. S. Cannon, P. A. Allen, H. E. Perry.

Ga., Atlanta.—The Mutual Realty Investment Co. has filed application for charter; capital \$25,000; petitioners, M. R. McClatchey and G. R. Reynolds, both of Cobb county, and R. S. Parker of Fulton county.

Ky., Clinton.—The Clinton Loan and Building Association is incorporated with \$100,000 capital by John W. Schneider, Clarence Ruchl, Gus Sauer and C. J. Aulick.

La., New Orleans.—The Tulane Building and Loan Association has filed its charter; capital \$5,000,000; directors, Joseph O. Schwartz, Albert M. Andrews, Harry C. Meyer, Henry E. Datz, Oscar Schreiber, Fred Bosworth, O. Bechtel, Charles J. Cunco, Guy L. Deano, Frederick A. Dinghaus, Ernest Dionne, Armstrong Donaldson, J. Henry Forcelle, Jr., Charles E. Franck, William D. Mumme, George Muller, Buford M. Myers, Gilbert Malloy, Lewis G. Negroetto, Carl Peterson, Wilkins Roach, Julius H. Schwartz, Charles S. Thomas and Foy P. Woodford; with Joseph O. Schwartz as president, Albert M. Andrews first vice-president, Harry C. Meyer second vice-president, Henry E. Datz secretary-treasurer, and Oscar Schreiber attorney.

La., St. Elmo.—The St. Elmo and Ascension Building and Loan Association, capital \$1,000,000, is organized with the following directors: George W. Reese, S. W. Settoon, E. P. Brady, W. A. Reich and Sidney Marchand.

La., Ville Platte.—The First National Bank of Ville Platte is approved; capital \$25,000; organizers, Armand Gorell, E. J. Aubry, L. J. Dossman, J. M. Cerelli and E. Ludsan.

Md., Frederick.—The Frederick Trust Co., capital \$100,000, is chartered and business is expected to begin soon. Reno S. Harp, C. T. K. Young and others of Frederick are interested. The incorporators are A. W. Ecker, Woodsboro; D. Chester Kemp, Frederick W. Obenderfer, Harry F. Shipley, Walter B. Leatherman, Claggett B. Ramsburg and Reno S. Harp, Frederick; J. Stewart Annan, Emmitsburg; David Cramer, Walkersville; George W. Fawley, Jefferson; W. B. Cutshall, Woodsboro.

Miss., Columbus.—The National Bank of Commerce has begun business with the following directors: W. S. Lindamood, president; W. N. Puckett, active vice-president; F. P. Phillips, vice-president; E. C. Chapman, cashier; Simon Loeb, John T. Sanford, L. A. Vaughan, T. J. Hancock, T. K. Swoope, H. F. Gilmall, Louis Rosenzweig, Brooks McGowan, A. H. Pegues, E. A. Blanks is assistant cashier.

Mo., Kansas City.—The Old Town Mutual Fire Insurance Co. of Kansas City is chartered; incorporators, J. H. White, C. P. House, W. H. Barnett, S. W. Abernathy, W. W. Felkin and H. B. Neiswanger.

Mo., Kansas City.—The Kansas City Town Mutual Fire Insurance Co. has been granted a charter; incorporators, J. B. Reynolds, Charles H. Ridgeway, A. A. Whipple, Fred W. Fleming, Ralph P. Swofford, G. M. Smith and Albert Martin.

Mo., Overland.—The Overland State Bank is chartered; capital \$10,000; directors, J. A. Fritchard, C. Reineimer, A. Fugger, Gus C. Etz, P. F. Fitzpatrick, and C. Reineimer, trustee.

N. C., Stoneville.—The Farmers' Bank &

Trust Co. of Stoneville is organized with authorized capital of \$25,000 by B. R. Stone, C. R. Joyce and others. Business is to begin in September.

Okla., Francis.—The Francis National Bank has made application to organize; capital \$25,000; directors, W. P. Chism, A. Doner, B. L. Stephens, W. T. Gordon, P. A. Norris and others.

Okla., Gotebo.—The First National Bank of Gotebo is chartered; capital \$25,000; surplus \$250; M. F. Pierce, president; C. M. Haxton, vice-president; C. A. Fisher, cashier, and T. J. Howe, assistant cashier.

Okla., Kaw City.—The National Bank of Kaw City, which is a conversion of the Bank of Kaw City, will begin business about June 1 with \$25,000 capital and \$1000 surplus; organizers, A. S. Shidler, C. L. Shidler and H. Barnum.

Okla., Sturgis.—The Security Bank has filed its charter; capital \$30,000; organizers, R. K. Weir, D. A. Saunders, W. W. Magruder and others.

S. C., Clinton.—The Clinton Loan & Trust Co. is chartered; capital \$25,000; directors, B. H. Boyd, president; R. Z. Wright and J. S. Craig, vice-presidents; Geo. W. Copeland, vice-president and secretary; S. H. McGhee, J. W. Pitts, Guy L. Copeland and L. H. Davidson.

S. C., Gaffney.—The Insurance Trust Co. is chartered with \$50,000 capital to do a general insurance and real estate loan business; officers not yet elected; business is to begin June 1. C. M. Smith is interested.

S. C., Gaffney.—The Carolina Realty Co. has made application for charter; B. G. Clary, president; C. C. Kirby, treasurer, and A. B. Kirby, secretary.

S. C., Greenwood.—The Citizens' Trust Co. is chartered; capital \$5000; J. G. Medlock, president; J. H. Bailey, vice-president, and W. B. Bailey, secretary and treasurer.

Tenn., Henderson.—The People's Savings Bank chartered; capital \$30,000; J. G. Hardeeman, G. E. McKinney, J. E. Ledbetter, L. L. Brigrance, A. P. Smith, N. B. Hardeeman, A. G. Freed and F. G. Cheatham, organizers. Business is to begin about September 1, 1913.

Tenn., Knoxville.—The conversion of the Union Bank of Knoxville into the Union National Bank is approved; capital \$200,000.

Tex., Bremond.—The Farmers and Merchants' State Bank is chartered; capital \$30,000; incorporators, R. B. Spencer, M. C. B. Hearn and A. D. Flowers.

Tex., Elysian Fields.—The Guaranty State Bank of Elysian Fields is authorized to begin business; capital \$10,000; E. S. Fry, president; J. M. Furrh, vice-president, and E. M. Grimes, Jr., cashier.

Tex., Omaha.—The First National Bank of Omaha will make application for charter; capital \$25,000. Directors: W. T. Russell, president; H. B. Stevens, first vice-president; H. M. Glass, second vice-president; Ira P. Forsyth, cashier; William F. Wallace, assistant cashier; W. B. Robertson, J. L. Ragland, G. L. May, L. M. Hitchens and Dr. R. D. Moore. William F. Wallace is assistant cashier.

Tex., Orange.—The Orange State Bank is being organized with capital of \$30,000 or \$35,000 by A. M. H. Stark and W. H. Malone.

Tex., Perrin.—The First State Bank of Perrin is chartered; capital \$10,000; incorporators, E. J. Shawyer, A. W. Shawyer and J. E. Woods.

Tex., Riverside.—The Riverside State Bank, capital \$10,000, is organized with J. M. Broyle president, H. B. Yelverton vice-president, and E. M. McDonald cashier; directors,

Roger Robbins and Sam P. Roark, Dodge, Tex.; D. T. Barnett, Carlisle, Tex., and J. M. Broyles and H. B. Yelverton, Riverside, Tex. Business is expected to begin soon.

Tex., Rosewood.—The First State Bank of Rosewood is chartered; capital \$12,500; incorporators, J. H. Carter, Fel Floyd and F. A. Carson.

Tex., Vera.—The First State Bank of Vera is incorporated with \$15,000 capital by W. H. Bratcher, J. E. Chase and W. T. Ward.

Va., Lynchburg.—The Berry & Stroud Building & Loan Co. is incorporated; capital \$25,000. Directors: R. N. Berry, president and treasurer; S. L. Stroud, vice-president and secretary, and M. B. Stroud. Business is to begin at once.

Va., Lynchburg.—The Citizens' Savings and Loan Corporation will begin business about June 15; capital \$50,000; David Dreyfuss, president; Geo. E. Caskin, vice-president; John Victor, secretary and treasurer; Walter Smith, L. Lazarus, C. M. Guggenheimer, N. B. Handy, S. P. Halsey, Richard Hancock, Don P. Halsey and John W. Craddock, directors.

Va., Norton.—The Clinchfield-Cumberland Insurance Agency incorporated; capital \$5000 to \$10,000; F. D. Kitts, president; H. M. Bandy, vice-president; J. D. Alexander, Jr., secretary and treasurer, all of Norton, Va.

Va., Richmond.—The Lorain Securities Corporation is chartered; capital \$1,000,000; B. Flippen, president; Thomas B. Gay, vice-president; H. H. Chalkley, secretary and treasurer.

NEW SECURITIES.

Ala., Russellville.—Defeated: Franklin county road bonds.

Ala., Guntersville.—S. A. Bradford of Guntersville has been awarded \$130,000 of 5 per cent. 30-year Marshall county road bonds at 102.50. J. H. Carter is judge of probate.

Ark., Lonoke.—Road Improvement District No. 4, created by last Legislature, will soon ask bids for about \$100,000 of 6 per cent. 5-25 or 30-year road bonds. Commissioners: W. W. McCrary is president; L. L. Glover, secretary, and D. R. Boone.

Ark., Newport.—Steps are to be taken, it is reported, to advertise the sale of bonds of Cow Lake Drainage District. Address District Commissioners.

Ark., Pine Bluff.—The Bank of Pine Bluff

has purchased at \$160,210 and cost of lithographing bonds \$100,000 of 5½ per cent. drainage-system bonds of Waterloo Drainage District.

Ark., Cotton Plant.—Bids will be received until June 6 for \$100,000 of 6 per cent. levee bonds by the Board of Directors of White River Lee District of Woodruff, Monroe and Prairie counties. H. C. Argo is acting secretary, Board of Directors.

Fla., Homestead.—June 24 an election is to be held to vote on \$10,000 of Homestead District, Dade county, school bonds. Address County School Board, Miami, Fla.

Fla., Gary.—Three districts in Hillsboro county will vote on school bonds as follows: Gary, \$20,000; Buffalo Avenue, \$20,000; East Tampa, \$6500.

Ga., Athens.—Bids will be received until 11 A. M. June 16 for \$100,000 of school, \$75,000 of street-improvement 4½ per cent. 30-year bonds; denomination \$1000; dated July 1, 1913; maturity June 30, 1943. H. J. Rowe is Mayor. Further particulars will be found in the advertising columns.

Ga., Columbus.—June 7 an election is to be held to vote on \$40,000 of 5 per cent. "Additional Lower Bridge Bonds." M. M. Moore is clerk of Council.

Ga., Colquitt.—June 5 an election is to be held to vote on \$5000 of water and school bonds.

Ga., Decatur.—June 20 bids will be opened for \$25,000 of 5 per cent. 30-year school bonds; denomination \$1000; dated July 1, 1912; maturity July 1, 1942. M. W. Driggers is City Clerk.

Ga., Lyerly.—Bids will be received until 10 A. M. July 10 for \$10,000 of 5 per cent. 30-year school district bonds; dated July 15, 1913. Address J. H. Hill, secretary and treasurer.

Ga., Summerville.—Bids will be received by B. H. Edmondson, secretary Board of Education, until 10 A. M. July 10 for \$15,000 of 5 per cent. school district bonds; maturity 1914 to 1943.

La., Baton Rouge.—East Baton Rouge parish has voted \$68,000 of 5 per cent. 1-20-year road bonds.

La., Benton.—An election is to be held in June to vote on from \$200,000 to \$300,000 of Bossier parish road bonds. Address L. C. Logan, president Police Jury, Route 2.

La., Covington.—The Interstate Trust & Banking Co. has purchased at par, less 3½ per cent. attorney fees, \$35,000 of 5 per cent.

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20-year bonds of School District No. 3; denomination \$500; dated March 1, 1913; maturity 1933.

La., Gulfport.—May 31 city will vote on \$150,000 of 6 per cent. railroad-aid bonds.

Md., Baltimore.—Bids will be received at the Mayor's office until 12.30 P. M. June 5 for the following 4 per cent. loans: \$400,000 of Jones Falls, \$80,000 of school, \$170,000 of dock improvement, \$375,000 of conduit, \$1,500,000 of water and \$650,000 of paving, \$325,000 of Annex improvement and \$2,000,000 of new sewerage. Richard Gwinn is City Register.

Miss., Batesville.—John Nuveen & Co., Chicago, have purchased at \$510 premium \$50,000 of 5 1/2 per cent. 5-20-year Panola county road and bridge bonds.

Miss., Belzoni.—Bids will be received until June 16 for \$20,000 of 6 per cent. sewerage bonds. Jeff Clark is Town Clerk.

Miss., Charleston.—The Sumner Savings Bank of Sumner, Miss., has been awarded at \$350 premium, \$25,000 of Tallahatchie county jail and bridge bonds.

Miss., Charleston.—On June 2, at public auction, the Board of Supervisors of Tallahatchie county will sell 6 per cent. bonds of Supervisors' District No. 4. W. D. Brown is clerk.

Miss., Columbus.—Bids will be received until 2 P. M. June 2 for \$50,000 of 5 per cent. 11-20-year road bonds of Supervisors' District No. 2, Lowndes county. B. A. Lincoln is clerk Board of Supervisors of Lowndes county.

Miss., Grenada.—An election is about to be held to vote on \$25,000 of street bonds.

Miss., Grenada.—The Board of Supervisors of Grenada county propose to issue \$20,000 of road bonds.

Miss., Hazlehurst.—Bids will be received until noon June 2 for \$25,000 of 5 1/2 per cent. Copiah county, District 1, road bonds. B. Shelton is Chancery Clerk.

Miss., Jackson.—On June 10 the Legislature will pass such acts as may be necessary to authorize the issuing of bonds aggregating \$3,000,000 by the Mississippi Levee District, whose head office is at Greenville, Miss. C. R. Smith is president of the Levee Board of Cleveland, Miss.

Miss., Jackson.—Bids will be received by W. W. Downing, clerk Board of Supervisors of Hinds county, for \$100,000 of 5 per cent. road bonds of supervisors districts Nos. 1 and 5; denomination, \$100 and \$500; dated June 4, 1913.

Miss., Laurel.—June 19 an election is to be held to vote on \$50,000 of bonds for road improvement in Beat 2, Jones county.

Miss., Magnolia.—The Board of Supervisors of Pike county will sell \$200,000 of 5 per cent. bonds of Fourth Supervisors' District.

Miss., Ripley.—June 19 Supervisors' District No. 3 of Tippah county will vote on \$20,000 of road bonds. Address Board of Supervisors of Tippah county.

Miss., Richton.—Election will be held June 10 to vote on \$10,000 of water-works bonds.

Miss., Tutwiler.—June 2 an election is to be held to vote on \$750 of water-works and sewerage bonds. D. W. Fite is Mayor and J. L. Donald clerk.

Miss., Tupelo.—Voted: \$25,000 of school-building bonds.

Miss., Woodville.—Bids will be opened on June 2 for \$12,000 of 5 per cent. 30-year road work and equipment bonds; denominations \$500 or \$1000; dated June 1, 1913; maturity June 1, 1943. L. Lewis is clerk Wilkinson county.

Mo., Albany.—Bids will be received until June 16 by Charles E. Gibbany, City Clerk, for \$13,000 of 6 per cent. electric-light bonds.

Mo., Carl Junction.—Voted: \$13,000 of public school building bonds.

Mo., Glasgow.—Voted: \$6000 of high-school bonds.

Mo., Joplin.—The \$75,000 of electric-light improvement bonds to be voted on June 3 are 5-20-year 5 per cents; denomination \$500.

Mo., Kansas City.—The Council is reported to have authorized the sale of bonds as follows: \$100,000 for levee and \$100,000 for tuberculosis hospital.

Mo., Kirkwood.—Defeated: Kirkwood School District bonds.

Mo., Elseberry.—Supervisors of Elseberry Drainage District are preparing to issue \$325,000 of bonds.

N. C., Angier.—Voted: School bonds.

N. C., Beaufort.—Sidney Spitzer & Co., Toledo, have been awarded at par \$13,000 of 5 per cent. four-year township, Carteret county, road bonds.

N. C., Farmville.—July 29 an election is to be held in Farmville township, Pitt

county, to vote on \$40,000 of 5 per cent. 40-year road bonds. W. L. McLawthon is chairman Board of Commissioners of Pitt county, and Brascoe Bell, clerk.

N. C., Goldsboro.—Bids were received until noon May 28 for \$83,000 of 5 per cent. 37-40-year funding, water, fire-department and street-improvement bonds. John R. Higgins is Mayor and D. J. Broadhurst City Clerk.

N. C., Greenville.—On July 9 Greenville township, Pitt county, will vote on \$50,000 of 5 per cent. 40-year road bonds. W. L. McLawthon is chairman Board of Commissioners of Pitt county, and Brascoe Bell, clerk.

N. C., Hendersonville.—County and township 6 per cent. road bonds aggregating \$95,000 have been purchased at \$300 premium by the First Bank & Trust Co., as agent for R. M. Grant & Co. of Chicago. The bonds are as follows: Hendersonville township, \$50,000; Hooper's Creek township, \$20,000; Henderson county, \$25,000.

N. C., Hendersonville.—P. F. Patton of Hendersonville has been awarded at 103 \$95,000 of road bonds of Henderson county, \$20,000 being township bonds.

N. C., Kenansville.—Voted May 17: \$10,000 of railroad-aid bonds, interest not to exceed 6 per cent. Address J. J. Bowden, clerk Board of County Commissioners.

N. C., Lincolnton.—Cutter, May & Co. of Chicago have purchased at \$523.23 premium \$100,000 of Lincoln county road bonds. Address Board of County Commissioners.

N. C., Mocksville.—Davie county will vote May 31 on \$150,000 of road bonds.

N. C., Nashville.—Bids will be received until noon June 5 for \$9000 of 6 per cent. 20-year school bonds. Geo. N. Bissette is secretary Board of Trustees Nashville School District.

N. C., Raeford.—Voted May 14: \$34,000 of Raeford school district bonds.

N. C., Raleigh.—Bids will be received until noon June 11 for \$1,142,500 or 4 per cent. North Carolina permanent improvement bonds; dated July 1, 1913; maturity July 1, 1953. B. R. Lacy is State Treasurer. Further particulars will be found in the advertising columns.

N. C., Rutherfordton.—Bids will be received until 2 P. M. June 2 for \$250,000 of Rutherford county road bonds voted April 26, 1913; dated July 1, 1913; maturity 1923 to 1952, inclusive; denomination \$1000; interest to be possibly 4 per cent., but bids will also be received at 4 1/2 and 5 per cent. W. G. Harris is chairman Board of Commissioners.

N. C., Lincolnton.—Cutter, May & Co., Chicago, has purchased \$100,000 of Lincoln county road bonds at \$523.23 premium.

N. C., Shelby.—Bids will be received until June 1 for either \$15,000 or \$25,000 of 6 per cent. 20-50-year road bonds of No. 7 township, Cleveland county; denomination \$1000. These bonds are part of a \$50,000 issue authorized April 12, 1913. Address Highway Commission, No. 7 Township, Lattimore, N. C.

N. C., Sylva.—The town of Sylva has voted \$15,000 of general improvement, and township of Sylva \$50,000 of 5 1/2 per cent. 20-year road bonds; denominations, \$15,000 and \$50,000, respectively. Address A. J. Dills.

N. C., Toisnot, P. O. Elm City.—Bids will be received until June 17 for \$10,000 of 6 per cent. 20-year bonds. Clarence Winstead is clerk Board of Aldermen. Further particulars will be found in the advertising columns.

N. C., Wilson.—Voted: \$30,000 of school bonds.

N. C., Waco.—May 6 Waco School District voted \$5000 of 6 per cent. 30-year school-building bonds. Address J. R. Rhyne, C. C. Boom, J. L. Hone, P. J. Kendrick and M. P. Horrelson.

N. C., Weldon.—Harris, Forbes & Co., New York, have purchased \$40,000 of 6 per cent. water-works and sewerage bonds at \$41,316.80.

N. C., Wilmington.—May 27 an election is to be held in New Hanover county to vote on \$175,000 of school bonds and \$100,000 of road bonds. John Haar is clerk.

Okla., Bartlesville.—June 24 an election is to be held to vote on \$7500 of 5 per cent. incinerating plant and garbage disposal bonds. C. A. Samm is Mayor and W. W. Jones City Clerk.

Okla., Norman.—Bids will be received until 8 P. M. June 10 for \$20,000 of 6 per cent. 20-year funding bonds. J. Martha Wise is City Clerk.

Okla., Poteau.—Edwards of Oklahoma City has purchased the \$30,000 of 6 per cent. 20-year park bonds voted May 15.

Okla., Stigler.—Haskell county is reported preparing to hold another election to vote on courthouse, jail and bridge bonds.

Tenn., Chattanooga.—The \$150,000 of 4 1/2 per cent. 30-year bonds for improvements in recently annexed territory have been sold as follows: First National Bank, \$50,000; Citizens' National Bank, \$25,000; Hamilton Trust and Savings Bank, \$11,000; Chattanooga Savings Bank, \$25,000; Hamilton National Bank, \$39,000.

Tenn., Dyersburg.—Owing to delay in receiving the opinion of Judge C. B. Wood of Chicago relating to validity of bond issues offered May 26, committees have deferred receiving and opening bids on same until June 9. W. A. Foulkes, Jr., is Mayor. Further particulars will be found in the advertising columns.

Tenn., Sevierville.—Bids will be received until noon June 10 for \$35,000 of 5 per cent. 20-year Sevier county refunding bonds; denomination \$1000; dated July 6, 1913. Address H. D. Bailey, chairman, and A. T. Marshall, clerk.

Tenn., Tipton.—Bids will be received until noon June 9 for \$50,000 of 5 per cent. 25-year Tipton county school bonds; denomination \$500. S. E. Stephenson is County Judge.

Tenn., Union City.—Reported that on June 1 city will issue \$25,000 of paving bonds.

Tex., Austin.—The State Board of Education has purchased the following securities: Falls county line common school district No. 15, \$11,800; Slaton independent school district, \$15,000; City of Gonzales school-house, \$30,000; Celeste independent school district, \$12,000; Palo Pinto common school district No. 5, \$3000; Irving independent school district, \$13,000; Bogata independent school district, \$12,000; Hardin county common school district No. 15, \$5000; Bexar county common school district No. 40, \$21,000; Galveston county common school district No. 7, \$15,000; Williamson county common school district No. 57, \$1500; Kingsville independent school district, \$40,000; Overton independent school district, \$7000; Giddings independent school district, \$20,000; Graham independent school district, \$10,000; Honey Grove independent school district, \$5000; Floyd county common school district No. 1, \$7500; Carson county common school district, \$8000.

Tex., Beaumont.—Voted: \$500,000 of Jefferson county road bonds.

Tex., Belton.—A petition is to be introduced in the City Council asking that an election be called to vote on \$40,000 of street bonds.

Tex., Brookston.—Voted: \$4000 of building bonds of Brookston school district.

Tex., Comanche.—Voted May 21: \$15,000 of 5 per cent. 40-year public school and improvement bonds; denomination \$500. G. A. Cunningham is Mayor.

Tex., Como.—Road bonds are reported voted.

Tex., Edinburg.—Hidalgo county will vote June 18 on \$200,000 of 5 1/2 per cent. 40-year special road bonds. A. E. Chavez is clerk county court.

Tex., Eddy.—Voted May 10: \$10,000 of 5 per cent. 40-year independent school district bonds; denomination \$475. It is expected that the Texas School Fund will purchase the bonds at par.

Tex., Fort Worth.—July 19 an election is to be held to vote on \$200,000 of Tarrant county jail bonds.

Tex., Greenville.—Voted: \$16,000 of 5 per cent. 8-40-year market bonds; dated June 1, 1913; maturity June 1, 1953.

Tex., Groveton.—Bids will be opened on June 16 for \$40,000 of 5 per cent. 20-40-year road-improvement bonds of Road District No. 1.

Tex., Groveton.—The Commissioners' Court has authorized the issuing of \$50,000 of 5 per cent. 10-40-year Trinity county courthouse bonds.

Tex., Hamilton.—Voted May 3: \$6000 of 5 per cent. 40-year sewer-construction bonds; denomination \$500; dated June 10, 1913; maturity June 10, 1953. They will be purchased by sinking funds of city and school district at par and accrued interest.

Tex., Hillsboro.—An election is to be called to vote on \$25,000 of 5 per cent. water-works and sewerage bonds.

Tex., Refugio.—Refugio county will vote June 21 on \$60,000 of courthouse and jail bonds.

Tex., Temple.—The Attorney-General has approved \$75,000 of 5 per cent. 20-40-year sewer bonds. It is stated the bonds will be sold June 10.

Va., Jonesville.—June 24 two magisterial districts of Lee county will vote on road-improvement bonds as follows: Rocky Station District, \$60,000, and Rose Hill District, \$16,000.

Va., Lovingsville.—Bids will be received until noon June 7 by E. L. Kidd, County Clerk, for \$35,000 of 5 per cent. 10-34-year Masses Mill Road District, Nelson county, bonds; denomination \$1000.

Tex., Orange.—District No. 1, Orange county, is reported to have sold \$23,400 of drainage bonds. O. R. Sholars is County Judge.

Tex., Pilot Point.—A. B. Wood, Dallas, Tex., has purchased \$12,000 of 5 per cent. 10-40-year street-paving bonds at 97 and accrued interest; denomination \$500; dated January 1, 1912. A. Q. Mustain is City Attorney.

Tex., San Antonio.—The State Board of Education, Austin, has purchased at par and accrued interest \$23,000 of 5 per cent. 40-year school district, Bexar county, building bonds; denomination \$1000; dated March 10, 1913; maturity April 10, 1953.

Tex., Seguin.—Voted: \$48,000 of 5 per cent. 5-40-year independent school district bonds; dated April 10, 1913.

Tex., Tolar.—June 21 an election is to be held to vote on \$12,000 of school bonds.

Tex., Tyler.—Smith county is reported to have voted \$75,000 of road bonds.

Va., Staunton.—The National Valley Bank has been awarded \$50,000 of the \$250,000 of 5 per cent. 10-30-year bonds for improvement of roads in South River District, Augusta county. J. N. McFarland is County Treasurer.

Va., Wytheville.—June 24 an election is to be held to vote on \$5000 of 6 per cent. water-works repair bonds.

W. Va., Fairmont.—Voted: \$400,000 of Fairmont district road-improvement bonds.

W. Va., Huntington.—No sale was made May 29 of the \$100,000 of 4 1/2 per cent. 20-30-year Cabell county road-improvement bonds, and it is stated will be disposed of through private negotiations. D. I. Smith is president Cabell County Court.

W. Va., Parkersburg.—Bids will be received until 3 P. M. June 12 for \$200,000 of 4 1/2 per cent. 10-year public improvement bonds; denominations, \$100, \$500 and \$1000. Address W. H. Smith, John S. McKown, Chas. A. Bukey and Edward Nelly, City Commissioners.

W. Va., Parkersburg.—June 10 an election is to be held in Parkersburg Independent School District, Wood county, to vote on \$300,000 of 25-34-year bonds. James A. Wetherell is president Board of Education of Parkersburg District.

W. Va., Princeton.—Defeated: Mercer county road bonds. Address City Clerk.

W. Va., Reeder.—Voted: \$20,000 of high-school building bonds.

FINANCIAL NOTES.

The Methodist Episcopal Church South, Claxton, Ga., is offering for sale \$7000 of 6 per cent. 5-15-year bonds. Further particulars will be found in the advertising columns.

The Continental State Bank of Qululan, Tex., has amended its charter, increasing its capital from \$10,000 to \$20,000.

The Guaranty State Bank & Trust Co. of Dallas, Tex., has filed an amendment to its charter, increasing its capital from \$600,000 to \$1,000,000.

The Central National Bank of Frederick, Md., has been converted into the Central Trust Co.; capital \$200,000. Emory L. Coblenz is president.

The Merchants and Mechanics' Bank of Birmingham, Ala., is now doing business in its new quarters, 1905 Second Ave. W. A. Porter is president.

About June 1 the First National Bank of Richmond, Va., will take possession of its quarters in the new building at the corner of 9th and Main Sts.

The Central Life Insurance Co. of Louisville, Ky., is reported to have moved its home office from Louisville, Ky., to Lexington, Ky. W. H. Gregory is resident.

At the annual convention of the Missouri Bankers' Association, held at St. Joseph, Mo., May 20 and 21, the following officers were elected for the ensuing year: J. R. Jennings of Moberly, president; R. S. Hawes, vice-president of the Third National Bank of St. Louis, vice-president, and W. H. Gordon of Marshall, treasurer; W. F. Keyser of Sedalia, secretary.

INDUSTRIAL NEWS OF INTEREST

Appointed City Engineer.

Robert D. Hennen of the Monongahela Valley Engineering Co., Morgantown, W. Va., has been appointed city engineer of Morgantown.

Contract for Heating Plant.

The contract for section No. 1, central heating plant, for the University of South Carolina has been awarded to W. B. Gulmarin & Co. of Columbia, S. C. The architects are Wilson & Sompayrac of Columbia.

Chicago Representative of Stone & Webster.

Edward N. Lake, formerly in charge of the electrical division at Boston of the Stone & Webster Engineering Corporation of that city, has been appointed to represent the company in Chicago, 601 First National Bank Building.

W. F. Robertson Steel & Iron Co.

The machinery and accessory tools of the rivet plant of F. J. Meeks, Muncie, Ind., have been purchased by the W. F. Robertson Steel & Iron Co., Elm and 2d Sts., Cincinnati, and are being installed in that company's factory. These additions make possible a considerably increased output and enlarge the range of sizes of rivets manufactured by the company.

Large Tunnel Contract.

The contract has been awarded for the two large tunnels at Whitney, N. C., to be constructed for the Southern Aluminum Co. It was awarded to the Rinehart & Dennis Company, railway contractor, Charlottesville, Va. These tunnels are 2000 feet long and 40 feet wide by 34 feet high, and are designed to be large enough to carry the entire Yadkin River water during floods. The Rinehart & Dennis Company has 32 tunnels under construction.

Patent Rotating Plating Barrel.

The Munzing-Loeb Company of Matawan, N. J., has obtained the rights for manufacture and sale of the "None-Such" single-cylinder and double-cylinder rotating plating barrel, covered by the patents of S. D. Catlin. These machines are now being manufactured by the company, and it is stated that several new features have been incorporated. The company has also acquired the manufacturing and selling rights of the "None-Such" carboy rocker. These appliances are described in catalogue No. 400.

Contract for Hydro-Electric Plant.

The San Joaquin Light & Power Corporation, Bakersfield, Cal., has arranged with J. G. White Engineering Corporation, 42 Exchange Place, New York, for the engineering and construction work on a 6000 K. V. A. hydro-electric plant near Springville, Cal.; the installation of a 3000 K. V. A. generator at the San Joaquin power-house; a 3750 K. V. A. water-wheel at Kern River Canyon plant, and 6250-kilowatt steam turbine, together with boilers, auxiliaries, buildings, transformers, etc., at the Bakersfield, Cal., steam plant.

Chickasaw Machine & Foundry Co.

Fully equipped machine shops, pattern shops, blacksmith shops and foundry for the manufacture of oil-mill, sawmill and special machinery are being operated by the Chickasaw Machine & Foundry Co. of Memphis, Tenn. This business is conducted at the former location of the Chickasaw Iron Works. The new company will also carry on extensive work in repair of heavy machinery, etc. The Chickasaw Iron Works continues in business, devoting its entire time to the manufacture of structural steel and iron work.

Gulf Naval Stores Supply Co.

Naval stores construction and engineering are made a specialty by the Gulf Naval Stores Supply Co., Whitney Central Bldg., New Orleans, La. The president and general manager of the company is Robson Dunwoody. The company supplies distilling apparatus and accessories, and is now building all-steel fireproof distilleries for turpentine and rosin. The company is interested in securing apparatus, structural steel, heat control, deep well drilling and pumping outfits; steel barrels, water meters, copper and steel wire cloth, cotton batting and hoop iron, and wishes to have prices on such apparatus and supplies.

Manufacturing Plant for Sale.

Over two acres of land with large factory buildings and new electric-power plant with capacity for about 150-horse-power, together

with all machinery, tools, engines and other property of the Dameron Machinery Corporation, Altavista, Va., will be sold at public auction on the premises June 5, 1913. The property has a frontage on the Virginian Railway, and comprises a complete manufacturing plant. Full information regarding the property and sale may be obtained by addressing Alfred B. Percy, trustee, Law Bldg., Lynchburg, Va., or inspection of the property may be made by application to A. G. Ball, Altavista, Va.

Orders for Blake Car Steps.

A recent order reported by the Blake Car Step Works of Charlotte, N. C., includes step equipment for 23 of the passenger cars of the Piedmont & Northern Interurban Electric line. This order was received as the result of tests which have been in progress for the past five months on two cars. The company has an extensive plant in Charlotte, and has recently decided to still further enlarge it. The step is an ingenious device to make leaving and boarding railroad cars safe, easy and convenient, and at the same time prevent attempts to board a car in motion. It is stated that final patents have just been secured for making the step entirely automatic.

Herman F. Doeelman, Consulting Engineer.

In order to better care for increasing business, Herman F. Doeelman, consulting engineer, has increased his office space in the American Building, Baltimore. Mr. Doeelman is specializing in the design of structural steel and reinforced concrete work, particularly as applied to modern industrial engineering. Previous to entering private practice, Mr. Doeelman was engaged as designing engineer of the Baltimore office of the American Bridge Co. for eight years, after which he was chief engineer of the Baltimore plant of the Carnegie Steel Co., the new buildings of which were designed under his direction. Other buildings for which he has recently acted as contracting engineer are the flour warehouse of the Terminal Warehouse Co., North and Pleasant Sts., Baltimore, Owens & Sisco, Continental Bldg., architects; the Hotel Joyce addition, Theodore W. Pietsch, American Bldg., architect; the factory for the Tin Decorating Co. of Baltimore, 273x341 feet, four stories high, and containing about 1800 tons of steel.

Belt's Duplex Calculator.

An easy and rapid method of calculating cubical contents for structural concrete, board measure for farm work, circumferences, areas, square root, decimal equivalents, conversion of metric to English system and vice versa, has been designed and copyrighted by F. A. Belt of Mt. Washington, O. Results are obtained by the use of four charts wound separately on double rollers. The rollers are geared and operated by handles. The desired columns on the charts are brought to view in longitudinal openings on the face of the calculator, and the result of any multiple thereof is instantly shown. One chart is a multiple of whole numbers and another of fractions, thus enabling one to multiply mixed numbers rapidly. The other two charts represent cubical contents. By adjusting these charts to required lengths accurate results are at once presented and are easily read on the charts. It is stated that persons unskilled in figures can obtain correct results rapidly by means of these charts. It is claimed that the exertion and concentration necessary is much less than in slide rule work. It is believed that these mechanically-operated charts will fill a demand which is not otherwise met.

Falling Springs Marl Development.

Application for charter is being made by the Falling Springs Soluble Lime Co. of Covington, Va., with capital stock of \$100,000, O. C. Barber, Akron, O., president; L. M. Latta, engineer in charge of work, Covington, and T. M. Gathright of Covington, in charge of sales. A tract of 1160 acres has been purchased having an estimated deposit of 116,000,000 tons of marl or soluble lime, which, it is claimed, will average about 98 per cent. calcium carbonate, also a small percentage of phosphoric acid and potash. The plant now under construction will have a capacity of 480 tons per day. The company will purchase 15 mill or quarry cars of two-ton capacity in addition to the machinery already installed as follows: Water-wheel from Pelton Water-Wheel Co., New York city; electric equipment, complete, from the Westinghouse Company, Baltimore office; piping from the American Spiral Pipe Works, Chicago; pulverizer machinery from the Amer-

ican Pulverizing Co., East St. Louis, Ill.; two miles of T rails from West Virginia Rail Co. of Huntington. It is stated that the plant will be in operation about August 1, and the products will be widely distributed for agricultural purposes throughout Virginia and other States, the demand already in sight requiring a large output from the mills.

Electric Railway Installations.

The remarkable and constant development of electrical industries and the use of electric apparatus in the South is indicated by the large number of sales of machinery by the leading electrical manufacturing companies. Among the important installations of railway apparatus recently contracted for by the General Electric Co., Schenectady, N. Y., in the South are the following: The Albany (Ga.) Transit Co., a 300-kilowatt motor generator set and switchboard apparatus; the South Carolina Light, Power & Railways Co., Spartanburg, new station equipment, including a 2500 K. V. A. Curtis turbo-generator set, three 500 K. V. A. transformers and switchboard apparatus; the Northern Texas Traction Co., Fort Worth, Tex., four four-motor car equipments and 10 two-motor car equipments of the G. E. type; the Houston (Tex.) Electric Co., 10 50-horse-power two-motor car equipments; the Dallas (Tex.) Consolidated Electric Street Railway Co., 10 new cars with two-motor car equipments; the Jacksonville (Fla.) Traction Co., 10 two-motor car equipments; the San Antonio (Tex.) Traction Co., 14 40-horse-power four-motor car equipments; the Norfolk & Southern Railway Co., Norfolk, Va., two 100-horse-power four-motor car equipments and three Sprague-General Electric Type M multiple unit trail-car equipments.

Sales of Ice Machines.

The shortage of the supply of ice during the past winter is reflected in the increasing number of sales of artificial ice-making and refrigeration plants by the leading companies. Among recent sales of the Frick Company, manufacturer of the "Eclipse" ice-making machinery, Waynesboro, Pa., the following are located in the South: An 18-ton freezing system, the Hyattsville Ice Co.; a 50-ton refrigerating machine and a 15-ton freezing system for the packing plant of the

Fort Worth (Tex.) Packing Co.; John Hague Engineering Co., St. Louis, two 3-ton machines for customers; a 10-ton freezing system for Fussell Ice Cream Co., Washington, D. C.; direct expansion pipelag for use in storage-room for the Ocean City Ice & Fuel Co., Ocean City, Md.; a 12-ton compression side with vertical machine for Shiner (Tex.) Creamery & Ice Manufacturing Co.; a 3-ton machine for the San Antonio Machine & Supply Co., to be used by the Glaze Wood & Coal Co. of that city; a 5-ton raw-water ice plant for the Griffith Company, Beallsville, Md.; a 4-ton ice-making plant to San Antonio (Tex.) Machinery & Supply Co., for Margo & Perez, Rio Grande, Tex.; two 15-ton machines for the Chevy Chase Dairy, Washington, D. C.; a 6-ton plant for the Normal and Agricultural Institute, Hampton, Va.; a 60-ton compression system, etc., for the Zimmerman Ice Co., Baltimore, Md., to be installed in its ice plant at Arlington, and many others, amounting in all to over 30 important recent sales in the South.

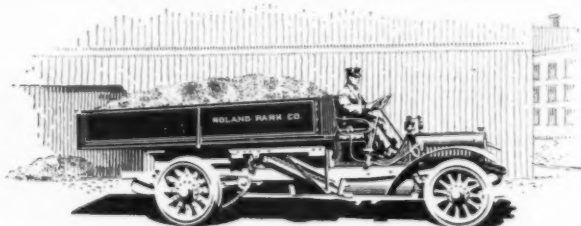
TRADE LITERATURE.

Robins Conveying Equipment.

The coal and coke crusher, feeders, elevators and conveyors manufactured by the Robins Conveying Belt Co., 13 Park Row, New York, are illustrated and described in bulletin No. 51, recently issued by the company. The DeMayo unloading elevator, for which the Robins company has secured the exclusive agency and manufacturing rights, is illustrated in the bulletin. This machine possesses many advantages and has been extensively used in coaling steamships at some of the important American ports. Other illustrations show Robins shaker feeder, Robins duplex shaking screens, Robins adjustable crushers, etc.

General Asphalt Co.

The 10th annual report to the stockholders of the General Asphalt Co. of Camden, N. J., with Philadelphia offices in the Land Title Bldg., has recently been issued. The total volume of business for the past year was \$14,995,323, with a tonnage sold and consumed of 300,403 tons. The continued development of the company's business along the lines of a manufacturing and supply com-



International Motor Trucks

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Everyday conditions are good tests for ordinary trucks—but our trucks make good under strenuous tests.

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Proofs like these repeated year after year during 10, 12 and 18 years are the best guarantee a buyer of trucks can get.

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Canadian Sales Agents:
Canadian Fairbanks-Morse Co., Limited, Montreal.



pany is shown by the fact that the sales of asphalt reached a total of \$9,900,309, or more than twice the amount of the contracting paving account. This report may be obtained by interested persons addressing the company.

Progress of Salisbury, N. C.

The first annual report of the Salisbury (N. C.) Industrial Club, recently issued from the office of Secretary Jas. H. Warburton, indicates the progress made in that city during the past year and contains a statement of the building projects and other contemplated improvements and advancements for the coming year. A number of important industries have been established in the city, including the Salisbury Metal Culvert Co., the Princeton Mills, the Meredith Hosiery Mills, the Lippman Mills, the Salisbury Brick & Tile Co., and many others. The report will be sent to interested persons upon request to the secretary or to T. J. Jerome, president of the Salisbury Industrial Club.

General Pneumatic Engineering Information.

In calling attention to some of the types of compressors manufactured by the Chicago Pneumatic Tool Co., Fisher Bldg., Chicago, bulletin No. 34-L has just been issued. It is one of the series covering the company's complete compressor line, and treats particularly of general engineering information of value to users of compressed air. It contains tables of efficiencies of air compression at different altitudes, density of gases and vapors, mean effective pressures and horse-powers, loss of pressure due to friction of pipes, etc. Views of various types of compressors are shown, also illustrations of the interior of the company's plant at Franklin, Pa. The bulletin may be obtained on request to the company or to any of its branch offices.

R. C. Huston & Co.'s Work.

The work of the engineering, agricultural, bond and legal departments and their separate divisions, together with lists of important contracts on hand, are noted in the folder of R. C. Huston & Co., engineers, of Memphis, Tenn., and Little Rock, Ark. The work of the engineering department includes designing, supervising and operating, ap-

praisements, investigations, reports and recommendations for water-works, electric lights, sanitary and storm sewers, paving, good roads, drainage and general municipal improvements. A statement is contained in the folder of a large number of contracts on hand and their valuation, also a partial list of work completed by the company, extending into millions of dollars. This folder and other information will be sent to interested persons on request.

Concrete Bridges, Roads and Curbs.

The subject of reinforced concrete bridges and culverts, expansion joint protectors for concrete roads, steel-edge protectors for concrete curbs, concrete sewers, retaining walls, docks, etc., is extensively treated in a pamphlet recently issued by the Trussed Concrete Steel Co., Detroit, Mich. Illustrations of reinforced concrete bridges for highways and railroads are shown, including the Richmond & Chesapeake Bay Railway viaduct at Richmond, Va., built of Kahn system reinforced concrete. This structure is 2300 feet long, 18 to 70 feet high, and has girder spans up to 67 feet. Another illustration is that of the concrete arch bridge at Asheville, N. C. An illustration of the form of concrete culverts on the Southern Railway near Atlanta, Ga., is shown. Other illustrations show the curb-protecting bars, Trus-Con armor plates in concrete roads, and other Trus-Con building products, and the methods of applying concrete.

The Richmond Screw Anchor.

With the object of presenting a means by which metal screws may be used in cement, stone and similar materials, the Richmond screw anchor was developed and patented. The advantages and methods of using the screw anchor are stated and illustrations given in a leaflet recently issued by the Richmond Screw Anchor Co., 9 Church St., New York. A special pamphlet, prices and other information may be obtained by addressing the company. This anchor provides the screw with a continuous metal bearing in the cement or stone in which it is placed. It is stated that tests have shown that the bolt breaks before the anchor loosens. The anchor is made in various sizes to suit conditions for which required. It may be embedded in the exposed soft surface after the cement is poured, or it may be screwed di-

rectly into the soft surface. In brick work anchors of the smaller sizes are simply laid in the joints. In drilling holes for the larger screws it is stated that no special care is required as to the shape or depth of the hole, as cement mortar or lead may be used to cement the anchor in the hole. This company is the sole representative in America for the "Thiollier" helical lining for screw spikes in wood and concrete ties.

Silica Retorts and Settings.

The advance marked by the adoption of silica material for retorts and settings in gas bench construction is noted in bulletin No. 6, recently issued by the Improved Equipment Co., 60 Wall St., New York. The bulletin is issued with the view of presenting the subject in an informing way to combustion engineers and others interested in the progressive gas industry, and in it silica

retorts and gas benches are described and illustrated and the advantages of silica as a refractory material fully explained. A valuable set of fusion curves is presented, showing the effect of combination of silica and alumina in resisting high temperatures. The curves were prepared to show graphically how the fusion points of refractory mixtures are affected by variations in the proportions of alumina and silica as compared with other material. The Doherty economizer gas bench with silica retorts and settings is shown in one of the illustrations. The Improved Equipment Co., of which Henry L. Doherty is president and Eugene Y. Sayer is general manager, has devoted considerable attention to combustion engineering for the past twelve years, and many important developments and advancements in that branch of engineering have resulted from their experiments and designs.

KLINE KAR



RUNABOUT. \$1985

The Kline Kar "Forty" Runabout is a high-powered, light, graceful, easy-riding, four-cylinder machine, simple in operation and control, and wonderfully economical in the consumption of oil and gasoline.

YOU cannot afford to ignore it in deciding on your car this spring.

Full line Touring Cars, Toy Tonneaus and Runabouts as well as Coupes and Speed Cars, with electric starting and lighting systems. Prices—\$1750 to \$3500.

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YORK, PA.

Main Office and Factory, RICHMOND, VA.

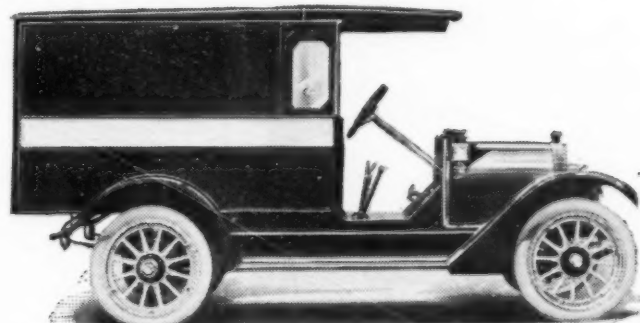
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PALACE CARS OF THE ROAD

In Touring, Toy Tonneau, Roadster and Special Body Types to meet all requirements

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Special attention called to our Delivery Wagon



PRICE ON APPLICATION

PULLMAN MOTOR CAR COMPANY

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Classified Opportunities

MEN WANTED

WANTED—Good salesmen in principal Southern cities to represent manufacturer of thoroughly first-class concrete mixer; liberal terms made with capable men. Address No. 1286, care Manufacturers Record.

WANTED—Varnisher for all-around work on store and office fixtures. Apply R. Mansfield & Son, Mrs. Store, Office and Bank Fixtures, Louisville, Ky.

SALESMAN WANTED.—First-class salesman for South Carolina territory; one understanding the sheet-metal business preferred; state full particulars and give references; must be ready to accept position immediately. The Carolina Metal Products Co., Wilmington, N. C.

BUSINESS ASSOCIATE.—A young man of good business training, with knowledge of bookkeeping, can become associated with a firm of fertilizer material brokers. A good opportunity for one with small capital and experience gained in the employ of some large fertilizer manufacturer's sales office, or one who has traveled and knows the fertilizer trade in the Southern States. Correspondence treated confidentially. Address No. 1281, care Manufacturers Record.

AGENCIES WANTED

GERMANY.—To represent manufacturers in Germany. Address H. Drawe & Co., Agents, Frankfurt-on-the-Main, Germany.

WANTED—Sales agency for farm machinery and fertilizers on a canvassing proposition; Mineral and adjoining counties of West Virginia as territory. Address A. B. Whoolery, Pinehurst, W. Va.

WANTED—Sales agency for staple lines of building materials, such as paints, finish hardware, etc.; would consider mill work. Full information and references furnished interested parties. Address Box 226, Augusta, Ga.

AGENCIES WANTED.—Wanted—To represent manufacturers in France. Write to A. Wolff, 15 Rue Chaudron, Paris, France.

WANTED—To travel for or represent an American manufacturing firm in the sale of their product, for South and Central America; have been in the tropics for 4 years and can speak Spanish fluently; best references. Address No. 1279, care Manufacturers Record.

WANTED—Sales agency for all lines pertaining to builders' specialties; East Tennessee as territory; can furnish satisfactory references to interested concern; modern warehouse facilities. Address Daniel Briscoe, Jr., 325-327 State St., Knoxville, Tenn.

SITUATIONS WANTED

POSITION WANTED by American of Scotch descent; last seven years sales manager, the last three of which have directed entire operations of a Y. P. manufacturing and wholesale business; previously spent two years in Philippines; capable of handling a foreign proposition as well as domestic. Address No. 1276, care Manufacturers Record.

PURCHASING AGENT, now employed by large contracting firm operating machine shops and foundry, open for engagement; well posted on prices and modern methods of handling miscellaneous supplies; first-class testimonials from present employers and others. Address No. 1287, care Manufacturers Record.

A HIGH-CLASS SALES ENGINEER desires connection in Southern territory; civil, electrical and mechanical engineer with wide acquaintance and fine record as a business getter. Correspondence invited. Address No. 1285, care Manufacturers Record.

WANTED—Either bank auditor, cashier or assistant cashier's place; eight years' experience; married; age 30; best references. Address No. 1283, care Manufacturers Record.

CHIEF ELECTRICIAN desires position; 12 years' practical experience, mechanical and electrical, in industrial plants; married; 29; technically trained; expect first-class salary; can accept on short notice. Address No. 1272, care Manufacturers Record.

AN OIL-MILL SUPERINTENDENT of 15 years' experience wishes to change position. Best of references given. Address No. 1264, care Manufacturers Record.

WANTED—Position as erecting engineer with manufacturer of engines or machinery; have technical education, am single, with 7 years' experience installing boilers, engines and mill machinery and operating same. Address No. 1277, care Manufacturers Record.

WANTED—Position of traveling salesman; had 12 years' experience in the machinery and mill supply business; 5 years' experience retail hardware business. Address No. 1273, care Manufacturers Record.

EXPERIENCED machinery salesman and practical mechanic desires position as sales manager or assistant with manufacturer or machinery sales agents; am considered good office man; would not object to traveling a part of the time. Address No. 1261, care Manufacturers Record.

RATES AND CONDITIONS

Rate 20 cents per line per insertion. Minimum space accepted, four lines. Maximum space accepted, 25 lines. In estimating the cost, allow seven words of ordinary length to a line. When the advertisement contains a number of long words, proper allowance should be made. Terms: Invariably cash with order; check, postoffice or express order or stamps accepted. No display type used. Questionable or undesirable advertisements will not be accepted. The assistance of our readers in excluding undesirable advertisements is requested. We reserve the right to refuse any advertisement. No patent medicine, whiskey or mining stock advertisements accepted. Rate for special contracts covering space used as desired within one year as follows: 100 lines, 18c. per line; 300 lines 16c. per line; 500 lines or more, 15c. per line.

BANKS

THE PALMETTO NATIONAL BANK, Columbia, S. C., capital \$250,000, solicits accounts of banks, firms, corporations and individuals, either commercial or savings accounts.

EDUCATIONAL

RENSSELAER POLYTECHNIC INSTITUTE, TROY, N. Y.—Courses in Civil, Mechanical and Electrical Engineering and General Science, leading to the degrees of Civil Engineer (C.E.), Mechanical Engineer (M.E.), Electrical Engineer (E.E.), and Bachelor of Science (B.S.). Special courses in engineering and science. Splendidly equipped new engineering laboratories. Send for catalogues to Registrar.

CHEMISTS

THOROUGHLY equipped to handle the chemical and bacteriological problems of manufacturers; service and satisfaction. The Holtzendorff Laboratories, Memphis Trust Bldg., Memphis, Tenn.

TYPEWRITERS

\$37.50—ROYAL TYPEWRITER, REBUILT LIKE NEW.—Send for special bargain list of used machines taken in exchange for re-builds. R. J. Nicholson, 41 St. Paul St., Baltimore, Md.

TYPEWRITER SUPPLIES

HIGHEST QUALITY TYPEWRITER SUPPLIES.—Exclusively oil carbon and mineral coloring matter used in manufacture of carbon paper, which enables us to guarantee absolutely clean work and permanent copies. Our ribbons are made of imported silk, giving much additional strength. They are guaranteed non-filling and long wearing. Address A. Sylvester Edmonds, care of American Ribbon & Carbon Co., 209 Shackelford Building, Athens, Ga. Please mention Manufacturers Record in writing.

PARTNER WANTED

I DESIRE an experienced managing partner in the foundry and machine shop business; one capable of taking full charge, with from \$3000 to \$10,000 to invest.

Having bought at commissioners' sale the entire holdings of the Eagle Casting Company at less than half the cost, and not being practical in this line of business, I am in position to offer something attractive to the right party.

Plant now running in town of 10,000 inhabitants, with three railroads, on private switch, with a capacity of 100 tons per month; location best in the State for such plant, and business to be had. Do not reply unless you have some money and thorough knowledge of the business. C. E. Gibbens, Winchester, Ky.

BUSINESS OPPORTUNITIES

LOCATION WANTED.—With my services have from \$3000 to \$5000 to invest in a going legitimate proposition with a future; South preferred; have made success in mining and manufacturing, and any proposition offered must bear investigation. Address No. 1270, care Manufacturers Record.

HOTEL PROPOSAL.—The Chamber of Commerce of the town of Clearwater offers a bonus of 10 per cent. of the cost of a first-class modern hotel, not to exceed one hundred thousand dollars cost. Write for further particulars. Evan H. Jones, Secretary, Clearwater, Fla.

BEST TOWN Southeast Georgia for hardware store. Millen Hotel Co., Millen, Ga.

WANTED—Practical man with money to manage manufacture of gasoline rock drills; two years' business ahead and alone in the field; protected by broad patent in 22 foreign countries; manufacturing cost, \$145; selling price, \$750; eliminates compressor plant, pipe lines, etc., and saves 80 per cent. in fuel over air drill. Write for details. This is an exceptional chance for a good live and practical man. Scott Drill Co., St. Louis, Mo.

WANTED—Experienced building contractor to buy \$4000 of stock in incorporated company and take management at good salary; have just started good job; lots of work to figure; pay \$1000 cash; balance, terms; sickness cause of selling; located in best city in Texas. Address No. 1286, care Manufacturers Record.

FOR SALE—Stock in strong trust company in Virginia; safe, profitable investment. Address Broker, Box 800, Richmond, Va.

GOOD INVESTMENT.—For Sale—Up to one-half interest in the capital stock of a nine-year-old corporation with valuable agency contracts in building material business, located in one of the largest cities in Texas. Position with good salary to man of judgment and ability. Must stand rigid investigation. Complete information by return mail. Address No. 1284, care Manufacturers Record.

WANTED—A partner with considerable means to help develop one of the finest hardwood timber and lumber propositions in the South; a good chance to make a large per cent. on your money; located at a beautiful city in Southern Arkansas; a very desirable place to live; I have a good mill and can give high-class references. Address No. 1274, care Manufacturers Record.

GOLD.—Rich sixty-foot zone partially developed; assay eight to ten dollars; lot No. 10, North Georgia; want capital to develop, or will sell interest. Box 22, Atlanta, Ga.

WANTED—Information from manufacturers as to prices, etc., of spoke and handle machinery, and machinery for turning all kinds of hardwood parts usually made in such a plant. Also want prices on equipping drykiln. Address Box 988, Charlotte, N. C.

CHOICE INVESTMENT.

If you or your clients wish to clear \$2,000,000 to \$3,000,000 on a safe and sound investment, requiring comparatively small outlay, here is your opportunity. Involves the development of a body of very rich farming land. Address No. 1280, care Manufacturers Record.

WANTED—To raise ten thousand dollars for operating cash fertilizer business in the South with headquarters in Atlanta; possibilities unlimited; no investment in machinery, plants, etc.; no bad debts; brokerage business to be worked in connection. Would consider partnership or would organize stock company. Will be glad to give full particulars by correspondence. July first most opportune time to start. Address Opportunity, P. O. Box 231, Atlanta, Ga.

FOR SALE—Hydro-electric project with exceptional merit; some development completed; prefer to sell part interest to parties who can help finance. E. H. Ingram, Secretary, Berryville, Ark.

INTEREST in a Missouri construction company for competent young man who has \$5000 to invest; strict investigation; references required. Write No. 1275, care Manufacturers Record.

R. R. TERMINAL AND FACTORY SITE

FOR SALE.—Large acreage near Atlanta, on Southern Railway, desirable for manufacturing. Also large tract in Birmingham suitable for railroad terminal or manufacturing. Coffield Investment Co., Atlanta, Ga.

FACTORY SITES

FOR SALE—Tract of land on Southern Ry., 2 miles from Greenville, S. C., "textile center of the South," suitable in every respect for manufacturing plant. Correspondence invited. P. O. Box 356, Greenville, S. C.

FOR SALE—The perpetual right to use one of the most desirable manufacturing sites near Richmond; price \$1500. For further particulars regarding this or other desirable manufacturing and warehouse sites in Richmond, Va., and vicinity, address P. A. Green & Co., Room 1101 Virginia Railway & Power Building, Richmond, Virginia.

INDUSTRIES WANTED

WOOD CREOSOTING PLANT

ORANGE, Texas, is anxious to secure a wood-creosoting plant. Abundance of raw material at our doors. Best transportation facilities, including water and rail and ocean-going vessels. The best possible field for disposition of product. Write the Orange Commercial Club, E. W. Anderson, Secretary.

CONDENSED MILK PLANT

LAWTON, OKLAHOMA, would like to locate plant to manufacture condensed milk; ideal dairying country; inexhaustible supply of pure mountain spring water at a very low cost; free site, with ample railroad facilities. Address Roy F. Champlin, Secretary, Lawton, Oklahoma.

MISCELLANEOUS

KENOVA, W. Va., offers unsurpassed advantages for manufacturing enterprises—free sites, cheap gas, cheap coal, three trunk-line railroads with belt line and switches, interurban electric line to cities in West Virginia, Kentucky and Ohio; two navigable rivers; various kinds of raw materials easily available; best markets economically reached. Kenova-Huntington Land Co., Huntington, W. Va.

ARE you seeking a factory site or a location for a wholesale or distributing house of any kind to reach the Southern and Southwestern markets? If so, Memphis is the place for you, because it is the geographical center and the gateway of the sections you wish to cover; because "Memphis makes the Rates," having 17 railroads and the Mississippi River, and because she has cheap and abundant raw materials, excellent labor conditions, and is unsurpassed as a residence city. Above all, she has 200,000 wide-awake citizens ready to welcome you and cooperate with you. Address John M. Tuther, Sec'y Business Men's Club, Memphis, Tenn.

INDUSTRIAL PLANTS FOR SALE

STEAM LAUNDRY

FOR SALE—Well-equipped steam laundry in one of the best towns in Oklahoma, population 3000. Price, building and ground, \$7000. Box 606, Tahlequah, Okla.

FLOUR MILL

FOR SALE OR RENT—Fifty-barrel water-power mill, located on Red River two miles north of Adairville; three-story brick building 50x50, seven acres fine land and two good cottages. This mill is doing a splendid business and is in the midst of a very fine farm and section. Reason for selling or renting is owners have no knowledge of the mill business, and all of their time is taken in other lines. This mill was rebuilt only a few years ago and is in fine shape. Don't reply without you have at least three thousand dollars on which to operate. Apply to Byars-Jenkins & Co., Adairville, Ky.

YARN AND CORDAGE MILL

FOR SALE—One of the best-equipped yarn and cordage mills in the South; machinery, stone building, tenant-houses, all modern and the best; 1296 spindles, rope attachment, etc.; run only 4 years; plenty of good labor; located in prosperous town; churches, school, and good health; cost \$53,000, and can be bought for \$18,000 to a quick buyer; machinery cost considerably more than price asked. Paola Cordage Co. Address M. E. Jarratt, Batesville, Miss.

MINERAL AND TIMBER LANDS, WATER POWERS AND MISCELLANEOUS PROPERTIES

GOOD FLORIDA LANDS.—Deal direct with owners. If you want good, well-located lands, either small or large tracts, or desirable city property, we have bargains to offer you. D. F. Conoley, 400 Zack St., Tampa, Fla.

LANDS.—Timber, coal, farm, irrigated; overlanded, will sell cheap; give location, kind and amount wanted; special bargains in timber and coal. The American Co., Washington, D. C.

FOR SALE—Duck River water-power and 70 acres; new cedar crib dam, 7 feet fall, susceptible 150-horse-power development; pike road 5 miles out; \$5000; easy terms. Will join a practical man with like amount and develop this power. J. B. Ashton, Columbia, Tenn.

J. E. KESTERSON, Huntington, W. Va. Dealing in coal, oil and timber lands in West Virginia and Kentucky.

ALL KINDS of real estate for sale and good investments in the Sarasota district. Write Harry L. Higel, Sarasota, Florida.

TWENTY-FIVE THOUSAND ACRES of land in the Shenandoah Valley of Virginia, seven miles long and six miles wide, approximately. A river winds its way through this property for 20 miles, affording about 5000 acres of fine pasture land. A trunk-line of a railroad runs through the full length of the tract, at \$3 per acre on account of forced sale under peculiar conditions, which will be disclosed upon application of responsible parties to T. R. J. Campbell & Co., 214 Corcoran Building, Washington, D. C.

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